

MISSOURI STATE EPIDEMIOLOGY PROFILE 2024



Missouri Behavioral Health Epidemiology Workgroup
(MO-BHEW)

Ruth Peabody, MPH; Susan Bradford, PhD
Missouri Institute of Mental Health

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Missouri Substance Use: Key Findings

Alcohol Use

Drinking percentages in Missouri match nationwide rates with 48.1% of those aged 12 and older reporting past month alcohol use. Alcohol initiation before the age of 13 has been steadily declining. Mortality rates for chronic liver disease or cirrhosis rose in 2022.

Tobacco Use

Tobacco consumption has been declining in Missouri and nationwide across several variables. However, Missouri has much higher past month use rates than nationwide (21.5% vs 15.3%, respectively). Consequentially, Missouri also has higher rates of death from lung cancer (54.6 vs 39.6 per 100,000) and COPD or emphysema (60.1 vs 42.7 per 100,000).

Marijuana Use

Nearly one in every six people (16.1%) over the age of 12 reported past month marijuana use, higher than the U.S. rate of 14.1%. Recent data shows those in the 18 to 25 age category used marijuana at a higher rate than other ages.

Missouri Mental Health: Key Findings

Depression

About 9.3% of adults over 18 had at least one depressive episode in the previous year. Death by suicide rates were higher in Missouri than nationwide (19.7 vs 14.8 per 100,000). One-fifth (21.5%) of Missouri youth reported deliberately self-harming with non-suicidal intention.

Prescription Drugs

In most recent data, 3.7% of Missourians aged 12 and older used pain reliever for a non-medical purpose. The highest percentages of use are among those aged 26 or older

LGBQ+ & Military

Lesbian, gay, bisexual, or questioning youth in Missouri have much higher substance use rates than their heterosexual peers. LGBQ+ youth reported higher instances of being bullied and experiencing suicidal ideation.

Children of military parents show depression indicators at higher rates than those without military parents. They have higher percentages of those bullying and being bullied. Suicide indicators are higher among this population as well.



INTRODUCTION

Missouri is located in the Midwest United States. The geography of the state is largely rural, although over half of the population clusters around two metropolitan areas. Slightly over six million people make Missouri their home making it the 18th most populated state. Approximately twenty-two percent (22.3%) of the population is under 18 years old, 60.4% are aged 18-64 and 17.3% are 65 and older. The population is primarily white (79.4%) and the second largest group is black (11.3%). Hispanic people make up a small group (4.6%) but growing. 4.1% of the population is foreign born and approximately 6.3% of the households speak language other than English.¹

Nearly nine percent (8.7%) of the adult population do not have a high school diploma while only 31.2% have graduated with a bachelor's degree or higher. Over a third (37.1%) of the population ages 16 and older are *not* in the labor force. Around thirteen percent (12.8%) of the population live in poverty. The median household income is \$65,920.¹

The Missouri Department of Mental Health (DMH), Division of Behavioral Health (DBH) is the state authority responsible for developing and implementing a statewide response addressing the impact of substance use disorder on Missouri families and communities. The DBH works collaboratively with other state and local agencies to ensure that the Missouri's response is comprehensive and appropriate. In the fall 2010, the state was awarded a grant and formed the Missouri Behavioral Health Epidemiology Workgroup (MO-BHEW). One of the products of the MO-BHEW is a State Epidemiological Profile. The first Profile was completed Spring 2011. The State Epidemiological Profile provides an overview of the current available data on substance use and mental health across the state, including subpopulation data where possible. In addition, it discusses available

¹<https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2022/> U.S. Census Bureau, 2017-2022 American Community Survey 5-Year Estimates

Risk and Protective Factor data for the state, data gaps that need to be addressed, and final conclusions on the condition of the state.

For the past 29 years, the DMH has also produced an annual Status Report with data on alcohol and drug use across the state. The Status Report includes data from national surveys as well as available local data. This historical data collection, in combination with the indicators suggested by the federal funders, led to the choice of indicators covered throughout this report.

Lastly, MO-BHEW identified two high-risk subpopulations, lesbian, gay, bisexual, transgender, or questioning (LGBTQ+) individuals and military personnel. While mental health and substance use data on these subpopulations are difficult to find, what is available is presented in this report.

Key Substance Use Measures





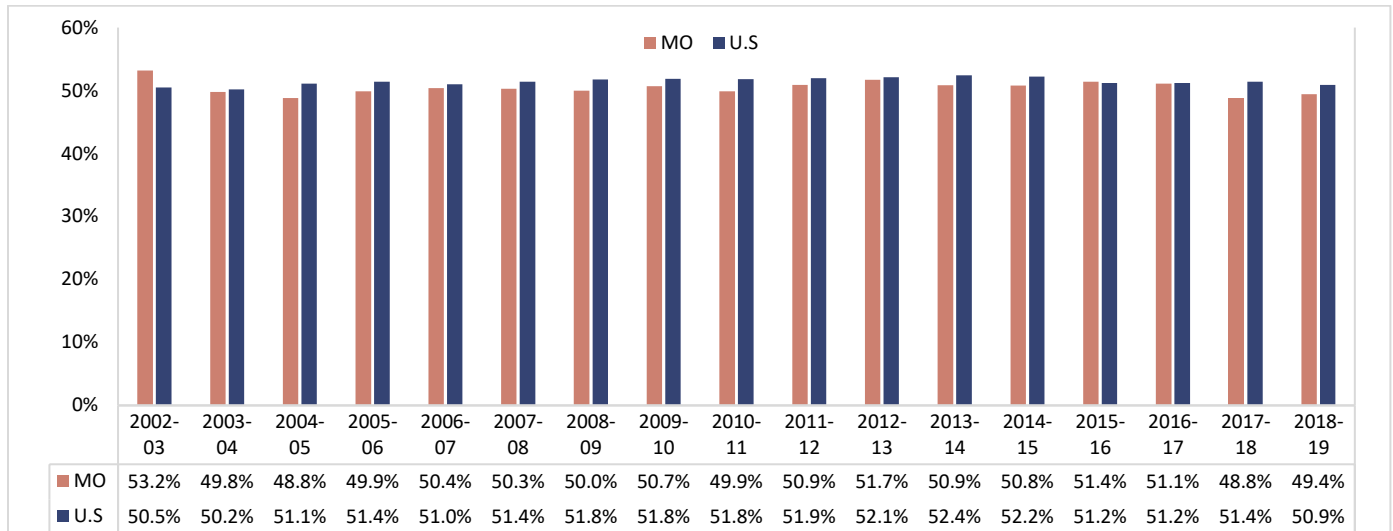
ALCOHOL

Alcohol Consumption

Drinking Rates

Estimated past month alcohol use continued a slight overall decline from 2002 to 2019. Missouri's rates are generally close to or slightly below the national average throughout the years.

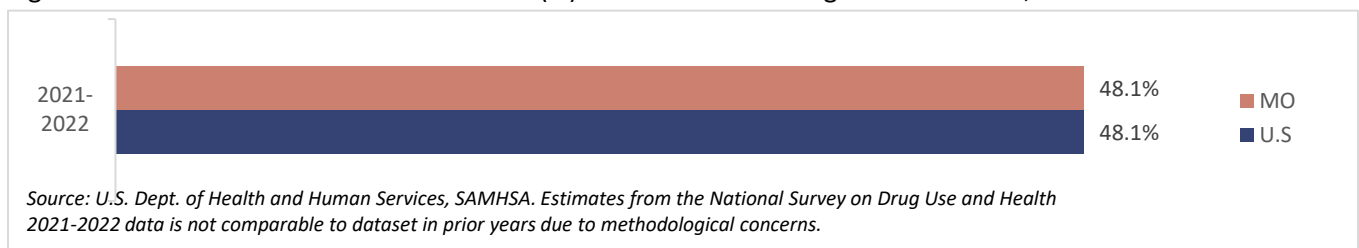
Figure 1: Estimated Past-Month Alcohol Use (%): U.S. and Missouri Ages 12 and Older, 2002-2019.



Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
 NSDUH state data was not available for 2019-2020. 2021-2022 data is not comparable to this dataset due to methodological concerns.

Because 2021-2022 data is not comparable with previous years, 2021-2022 data is shown in the below chart. In 2021, 48.1% of all Missourians aged 12 and older reported using alcohol in the past month, exactly the same as the United States rate.

Figure 2: Estimated Past-Month Alcohol Use (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



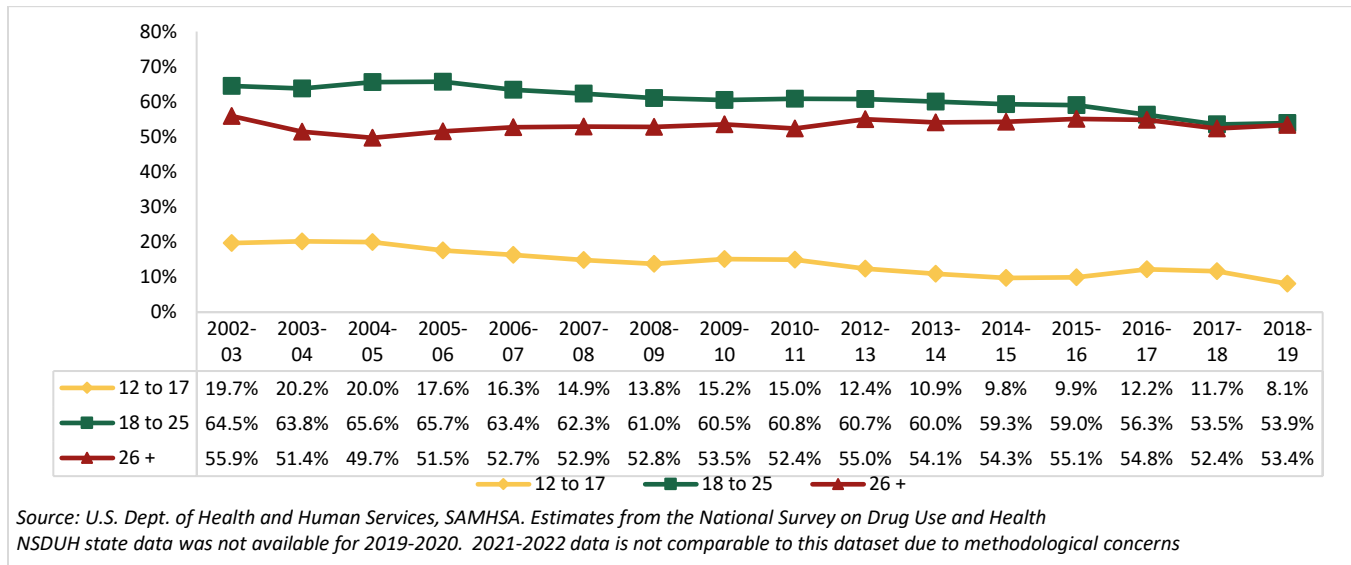
Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
 2021-2022 data is not comparable to dataset in prior years due to methodological concerns.

Age of First Use

Those in the 18-25-year-old age group reported drinking in the past month at similar rates to the 26+ age group. Those in the 12-17 age group drink less than the older categories.

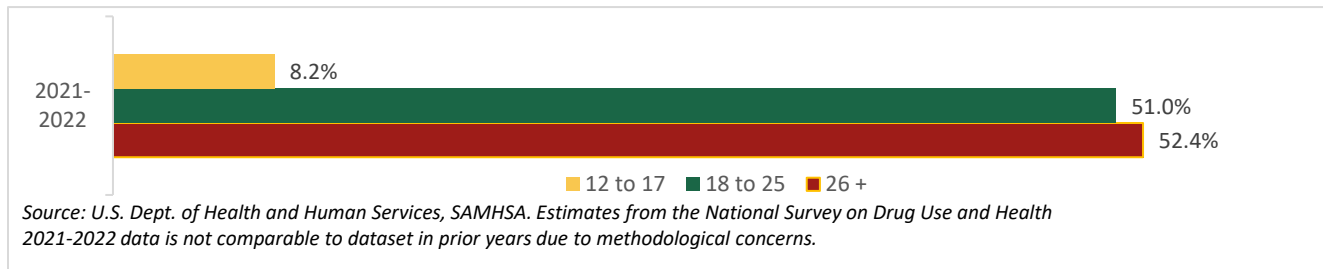
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Figure 3: Estimated Past-Month Alcohol Use (%): In Missouri by Age Group, 2002-2019.



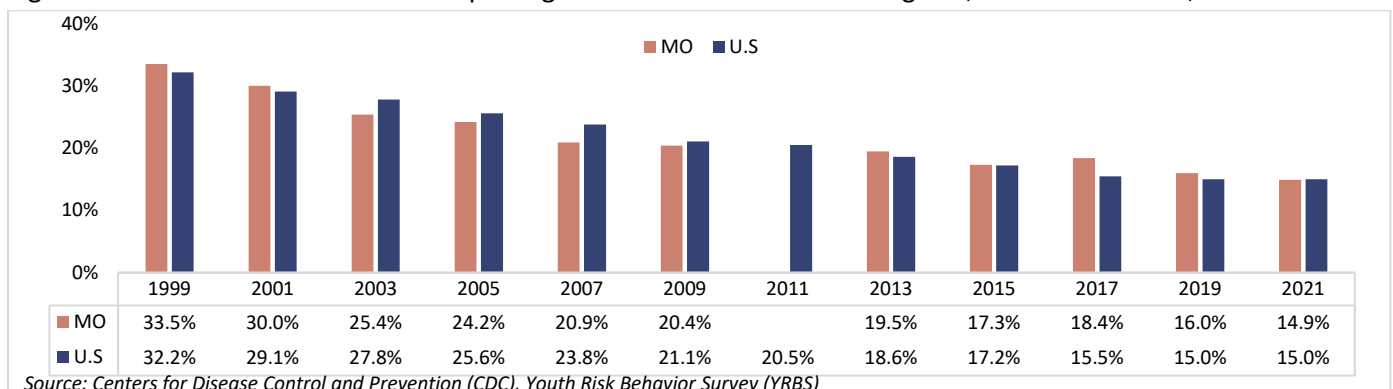
Approximately 8% (8.2%) of Missourians aged 12-17 years reported drinking alcohol in the last month, compared to 51.0% of 18-25-year-olds and 52.4% in the 26+ age group in 2021-2022.

Figure 4: Estimated Past-Month Alcohol Use (%): In Missouri by Age Group, 2021-2022.



Overall, there is a clear downward trend in early alcohol use among students in both Missouri and the U.S. over this period. In 1999, approximately 33.5% of Missouri students and 32.2% of U.S. students reported early alcohol use (before age 13). By 2021, these figures had decreased to 14.9% in Missouri and 15.0% in the U.S. The data indicates that the rates for Missouri and the U.S. have converged over time, showing similar trends and values in recent years.

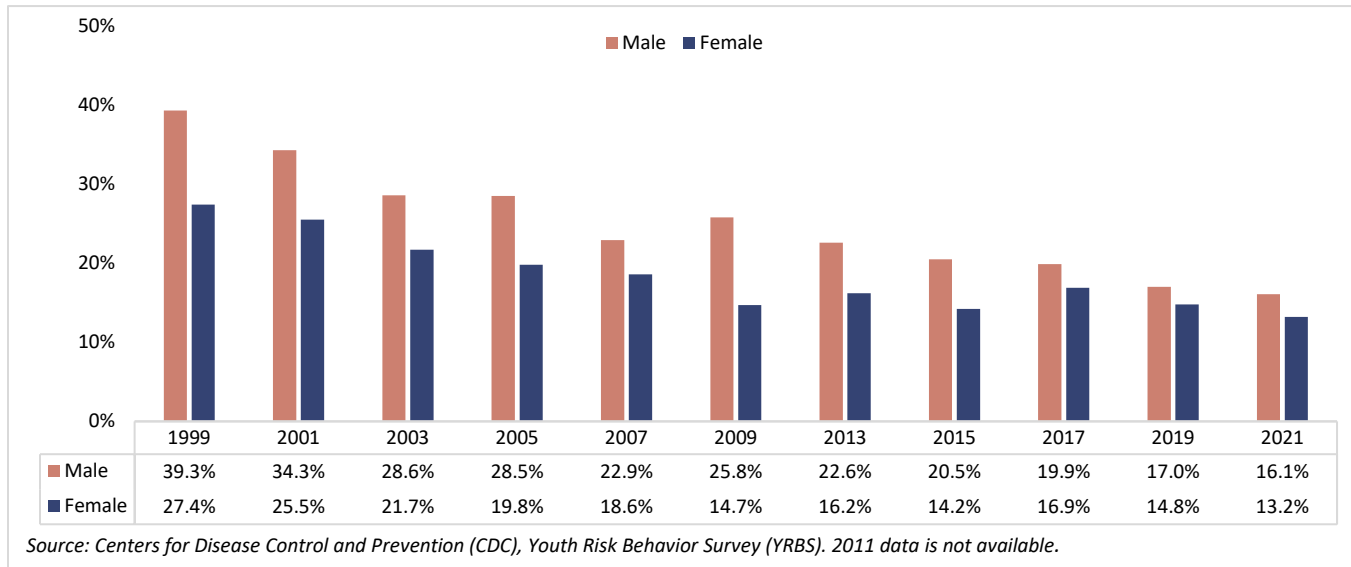
Figure 5: % Students in 9-12 Grades Reporting First Use of Alcohol Before Age 13, U.S. and Missouri, 1999-2021.



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In Missouri, males consistently report a higher percentage of drinking before age 13 than females. In 2021, the percentage of males initiating drinking before age 13 was 16.1% compared to 13.2% for females. Percentages for male and female participants have reported drinking before the age of 13 have decreased every year for several years.

Figure 6: % Students in 9-12 Grades Reporting First Use of Alcohol Before Age 13: In Missouri by Gender, 1999-2021.

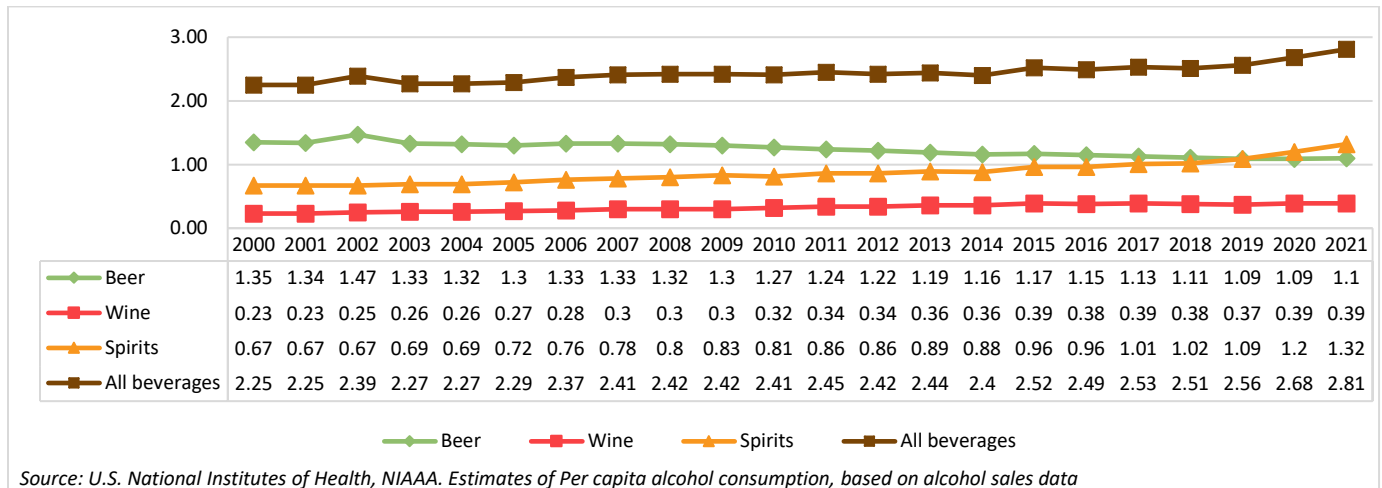


Per Capita Ethanol Consumption

Per Capita data should be interpreted cautiously – it may not be sensitive in identifying areas where a high prevalence of heavy use is also seen with high rates of abstinence.

In 2020 and 2021, per capita consumption of ethanol for nearly all beverages increased since 2019. Spirits surpassed beer as having the highest consumption rate for the state. Wine is the least popular form of ethanol consumed in Missouri.

Figure 7: Per capita ethanol consumption for Missouri, ages 14 and older (in gallons), 2000-2021.

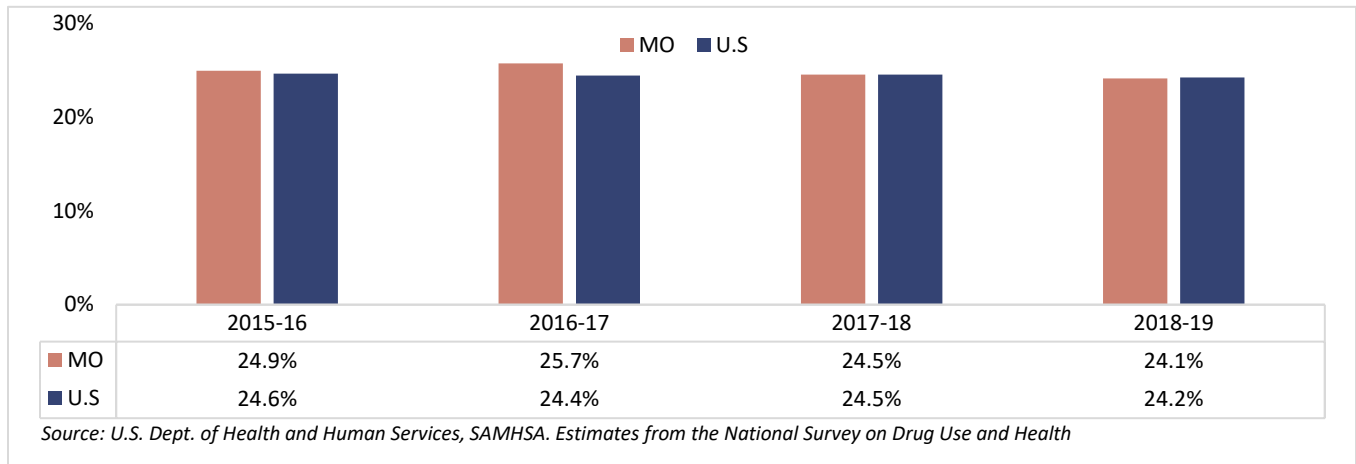


Binge Drinking

In 2015, the National Survey on Drug Use and Health (NSDUH) increased the threshold for determining binge alcohol use for females from 5+ drinks on one occasion to 4+ drinks on one occasion. Therefore, data from before 2015 are not comparable to current data. To review data prior to 2015, please refer to the [2017 Missouri Epidemiological Profile](#). Additionally, because of methodological concerns, 2021-2022 NSDUH data may not be compared with data prior.

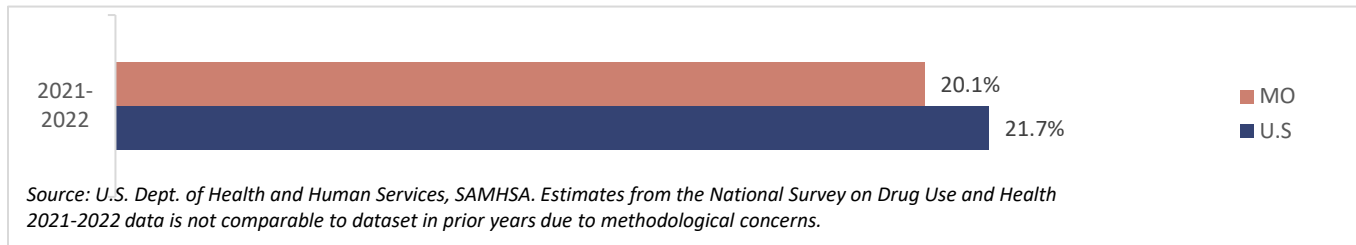
Percentages of past month binge drinking from 2015-2019 appears to have been relatively stable, jumping briefly in 2016-2017 in Missouri.

Figure 8: Estimated Past-Month Binge Drinking (%): U.S. and Missouri Ages 12 and Older, 2015-2019.



In 2021-2022, Missouri dipped below the national percentage of adults 12 and older who binge drank in the past month (20.1% vs 21.7% respectively).

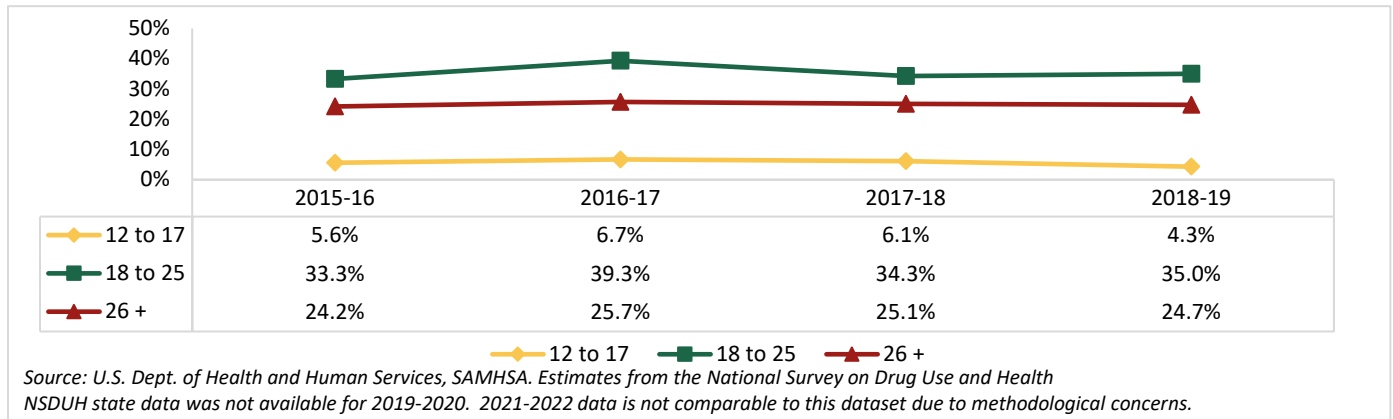
Figure 9: Estimated Past-Month Binge Drinking (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



While overall drinking rates are merging in the 18-25 and 26+ groups, here data shows that the 18-25 are still more likely to binge drink when compared to older or younger groups. The 12-17 age group was the least likely to report past month binge drinking.

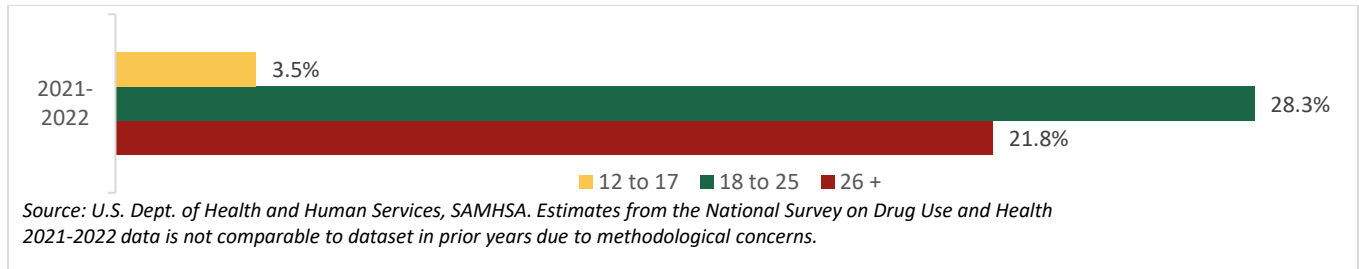
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Figure 10: Estimated Past-Month Binge Drinking (%): In Missouri by Age Group, 2015-2019.



In 2021-2022, 3.5% of Missourians aged 12-17 reported binge drinking in the last month. This compares to 28.3% of the 18–25-year-olds and 21.8% in the 26+ age group.

Figure 11: Estimated Past-Month Binge Drinking (%): 2021-2022.



When comparing the percentage of people who reported any drinking to those who reported binge drinking in past month, it becomes clear that binge drinking is a concern, especially among youth and younger adults.

Table 1: Comparison of 30 Day and Binge Drinking in Missouri, 2021-2022.

| Age Group | % of Sample Reporting 30 day Use | % of Sample Reporting Binging in the last 30 days |
|-----------|----------------------------------|---|
| 12-17 | 8.2% | 3.5% |
| 18-25 | 51.0% | 28.3% |
| 26+ | 52.4% | 21.8% |

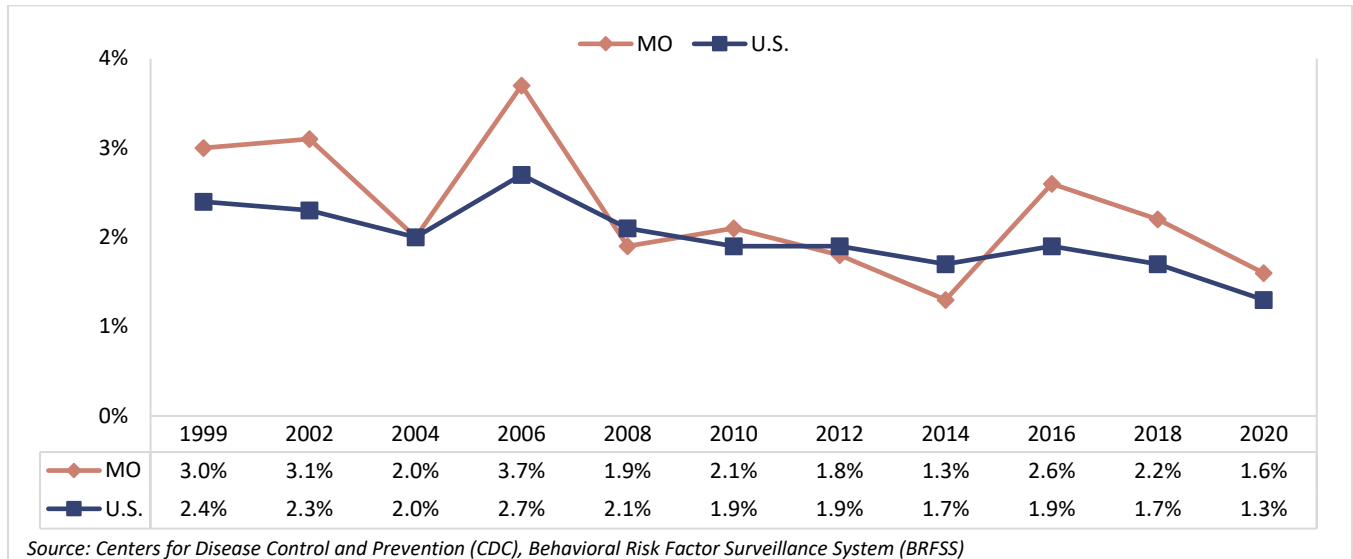
Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health.

Drinking and Driving

In 2020, 1.6% of Missourians reported at least one episode of alcohol impaired driving in the past 30 days. This is more than the national average of 1.3%. National and statewide numbers are comparable, and they have been dropping since 2016.

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Figure 12: % of Adults Aged 18+ Reporting 1+ Episodes of Alcohol Impaired Driving in the Past 30 Days: 1999-2020.

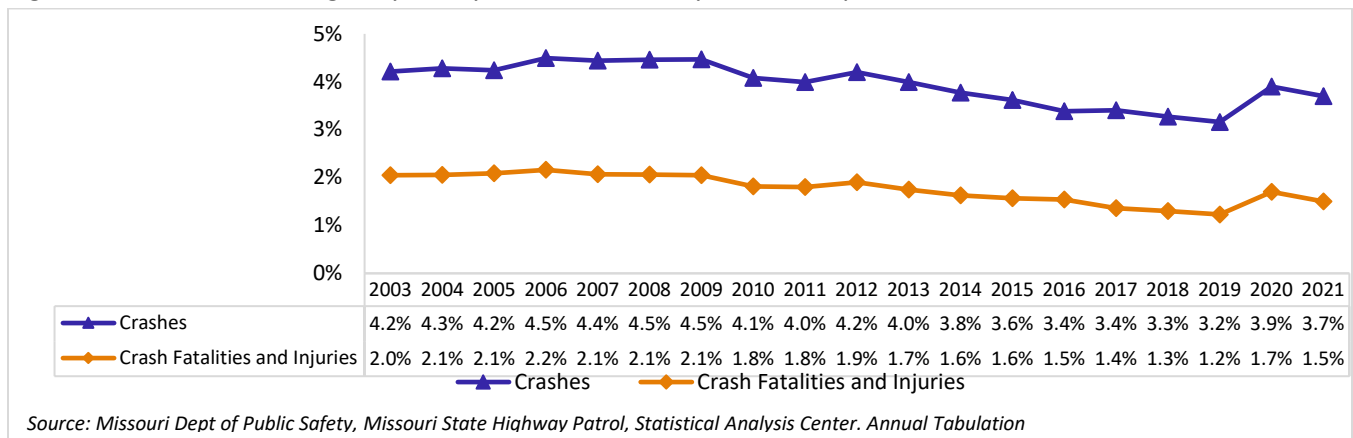


Alcohol Consequences

Traffic Crashes

Total traffic crashes in Missouri were on the decline, falling from 182,748 in 2003 to 146,738 in 2021. The percentage of crashes that were caused by alcohol-impaired drivers, after years of decline, showed small increase in 2020 (from 3.2% in 2019 to 3.9%). The percentage of crashes that were caused by alcohol-impaired drivers that resulted in fatalities or injuries have also spiked to 1.7% in 2020. Both numbers decreased in 2021.

Figure 13: % of Missouri Highway Safety Burden Caused by Alcohol-Impaired Drivers, 2000-2021.



Mortality Rates

Missouri's rate of cirrhosis (chronic liver disease) deaths per 100,000 has been steadily rising for the past few years. The statewide rate rose from 11.7 deaths per 100,000 population in 2018 to 16.9 in 2022. When examining rates by demographics, men and white people are more likely to die due to cirrhosis in Missouri.

Figure 14: Rate of All Cirrhosis Deaths per 100,000 Pop: U.S. and Missouri, 2018-2022.

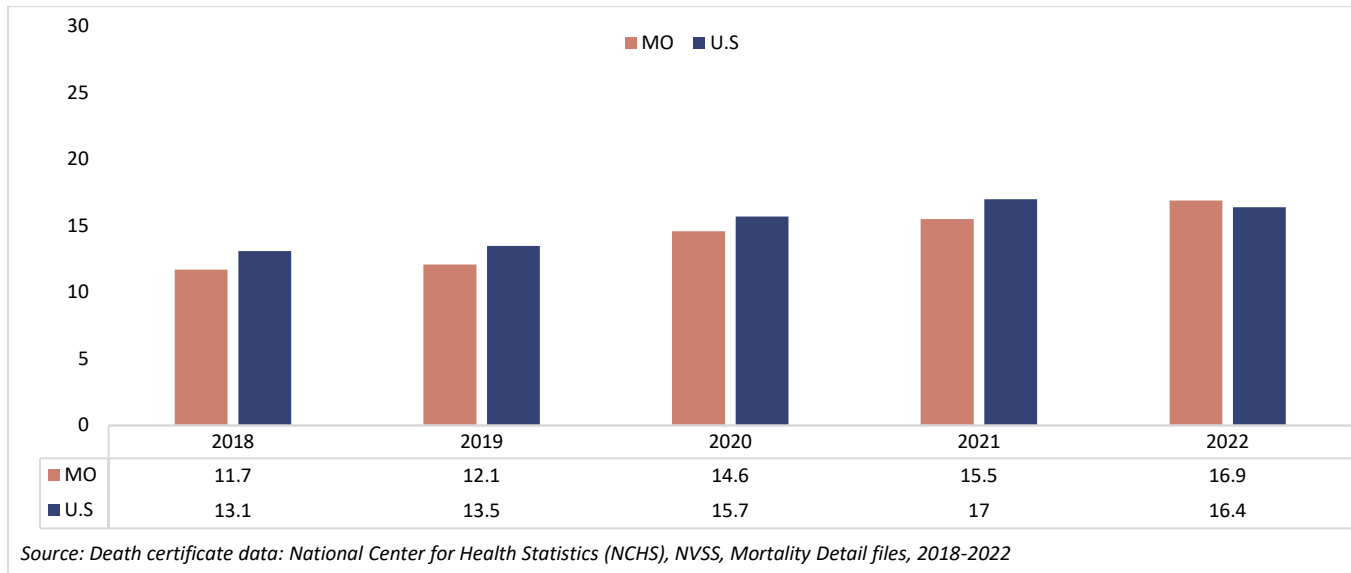
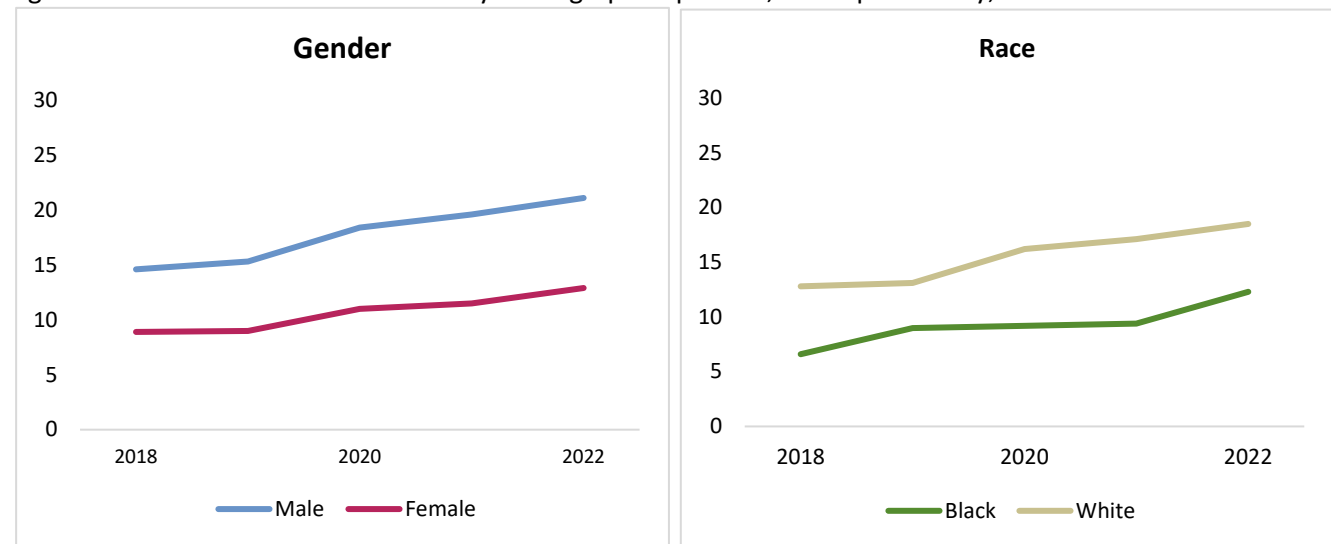


Figure 25: Rate of All Cirrhosis Deaths by Demographics per 100,000 Pop: MO only, 2018-2022.



Death by homicide rates have remained relatively steady statewide and nationally. However, Missouri has a much higher homicide rate than nationwide (12.0 vs 7.5). When separating at the rates by demographics, men are much more likely to die due to homicide. In 2022, the death by homicide rate for the black population in Missouri was 66.3 compared to their Caucasian or White counterparts (4.8).

Figure 16: Rate of Homicides per 100,000 Population: U.S. and Missouri, 2018-2022.

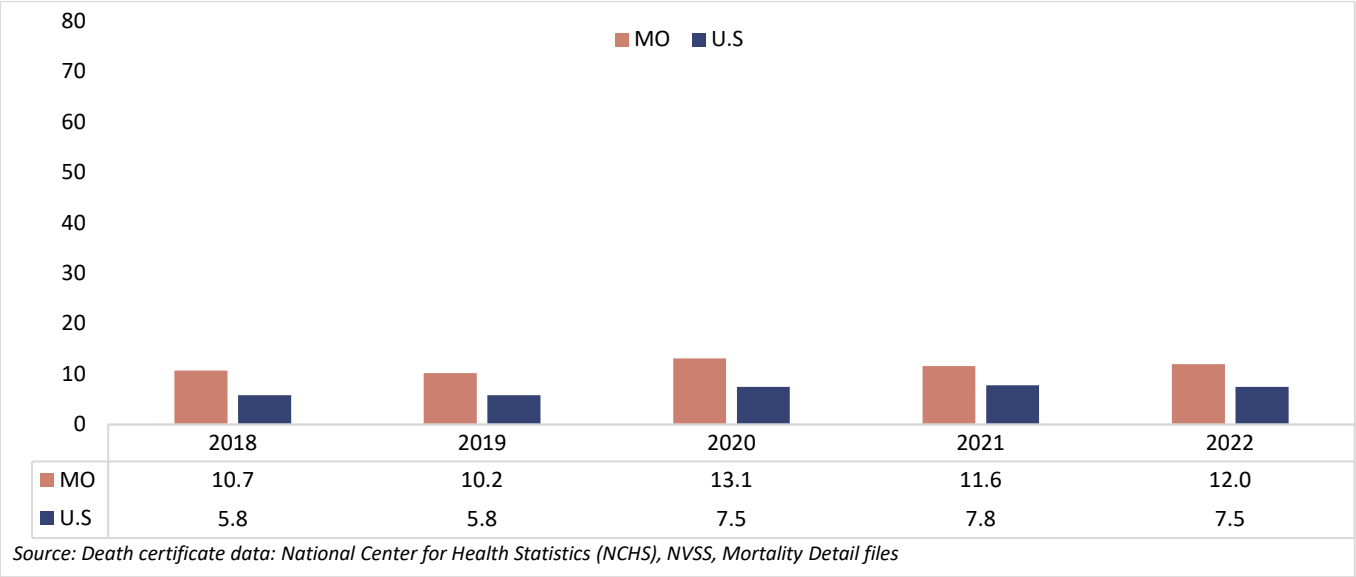
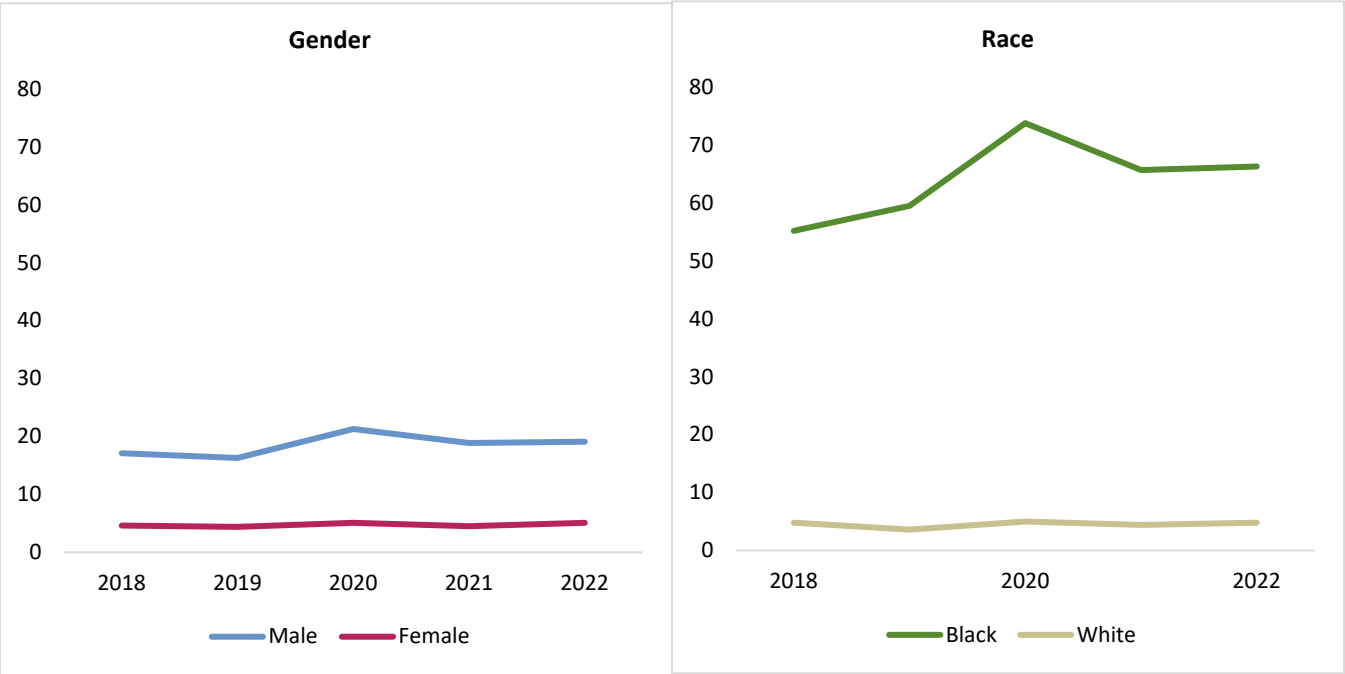


Figure 17: Rate of Homicides by Demographics per 100,000 Pop: MO only, 2018-2022.



Source: National Center for Health Statistics. Underlying Cause of Death 1999-2019 on CDC WONDER Online Database



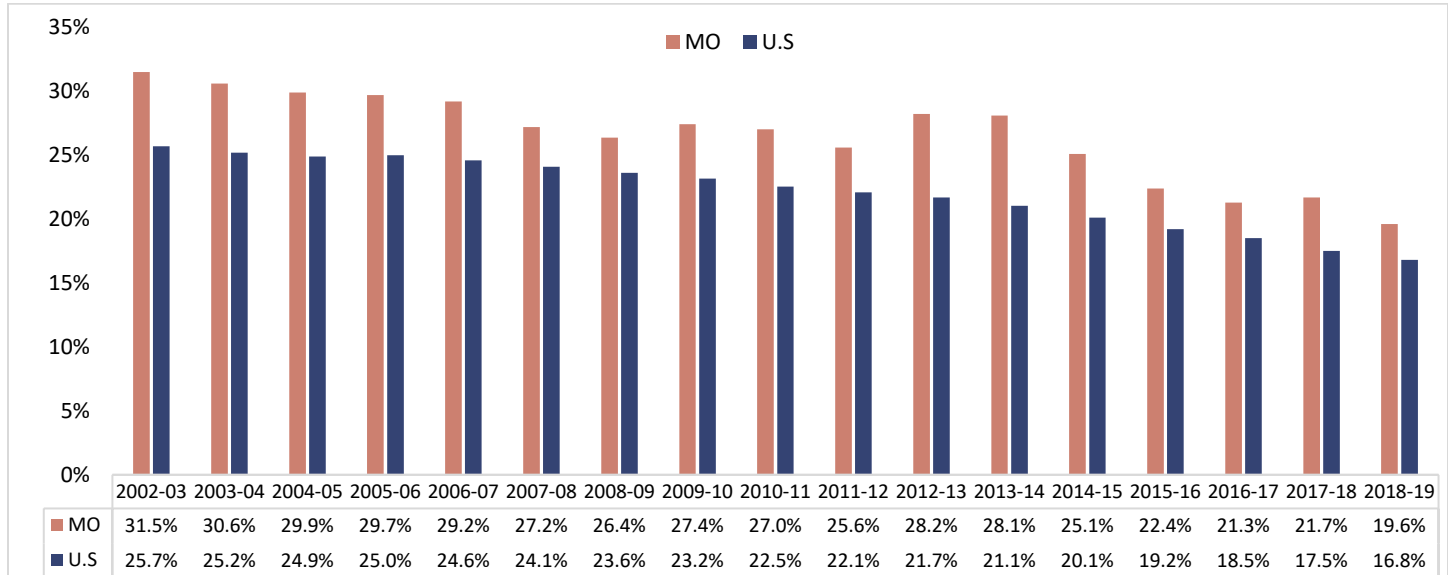
TOBACCO

Tobacco Consumption

Tobacco Rates

Past month cigarette use continues to decline across the United States, including Missouri. However, Missouri has consistently shown a higher percentage of people using cigarettes comparatively.

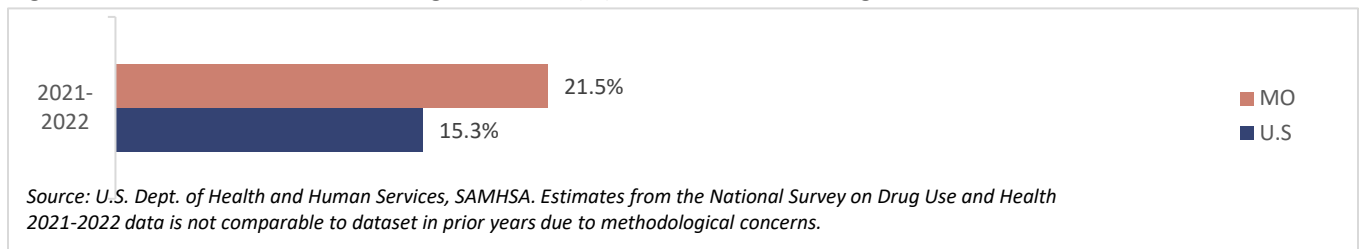
Figure 183: Estimated Past-Month Cigarette Use (%): U.S. and Missouri Ages 12 and Older, 2002-2019.



Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health

*NSDUH state data was not available for 2019-2020. 2021-2022 data is not comparable to this dataset due to methodological concerns.

Figure 19: Estimated Past-Month Cigarette Use (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
2021-2022 data is not comparable to dataset in prior years due to methodological concerns.

NSDUH's 2022 data shows that 21.5% of Missourians aged 12 and older said they smoked cigarettes in the past month. Nationally, only 15.3% said they smoked in the past month. When comparing past-month cigarette use across age groups, an interesting trend emerges. While 18-26 year-olds used to use cigarettes at higher rates than other groups, the 26+ year-old group began to lead. Meanwhile, those 12-17 continue to drop.

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Figure 20: Estimated Past-Month Cigarette Use (%) in Missouri, By Age Group, 2002-2019

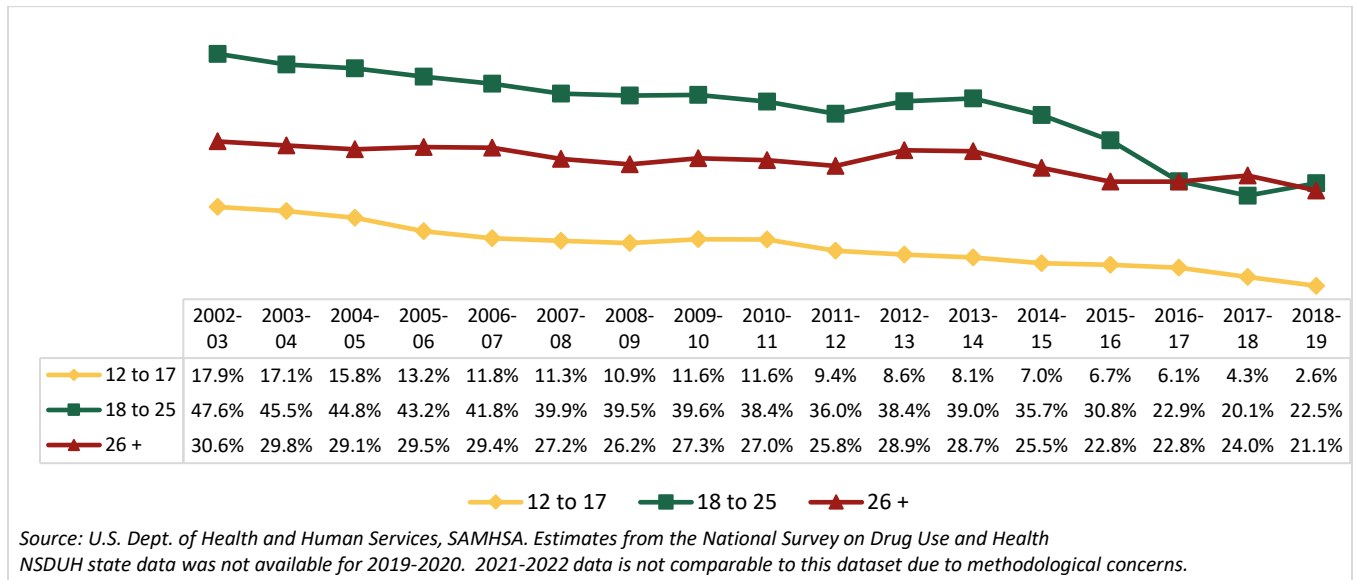
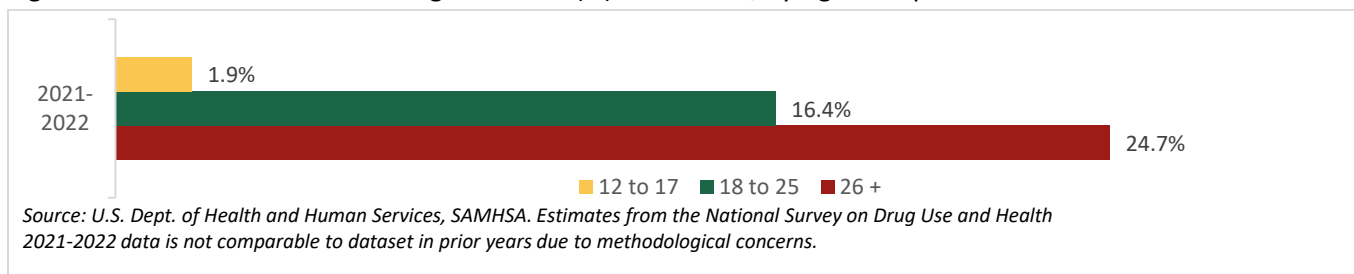


Figure 21: Estimated Past-Month Cigarette Use (%) in Missouri, By Age Group: 2021-2022.



The increase in youth vaping from 2014 to 2020 appears to have reversed in trend. Since 2020, the rate of Missouri middle schoolers and high schoolers vaping or using e-cigarettes in the past 30 days has dropped from 15.5% to 8.6% in 2024.

When splitting the data by grade level, high schoolers (9th-12th grade) are much more likely to report past month vaping than middle schoolers (6th-8th grade). Both age groups reflect the recent decline in e-cigarette use.

Figure 224: Estimated Past-Month E-Cigarette Use (%): Missouri Grades 6-12, 2014-2024.

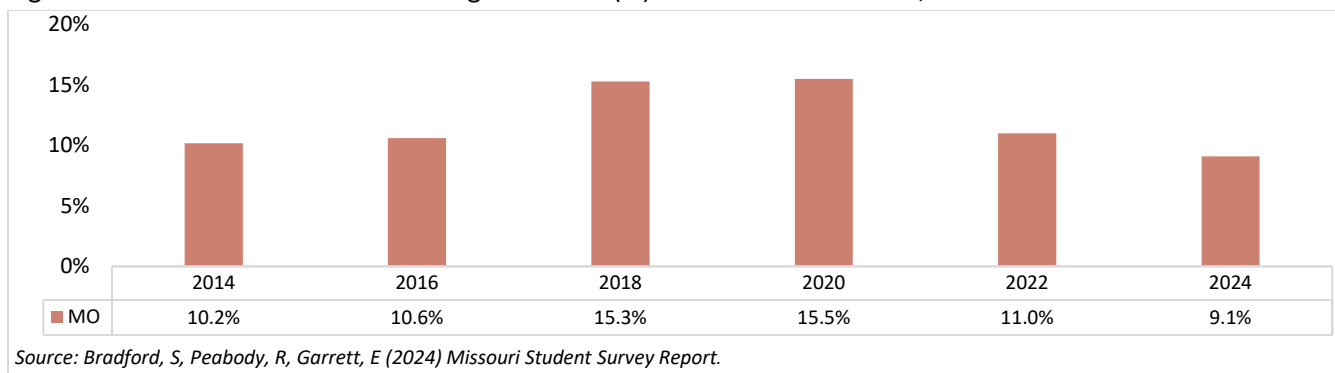
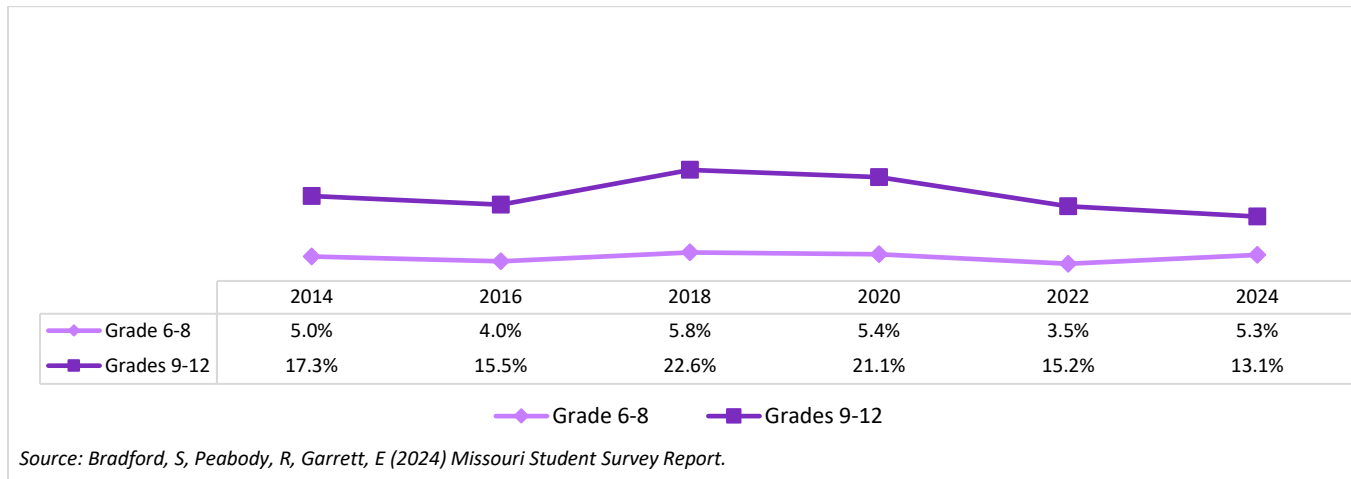
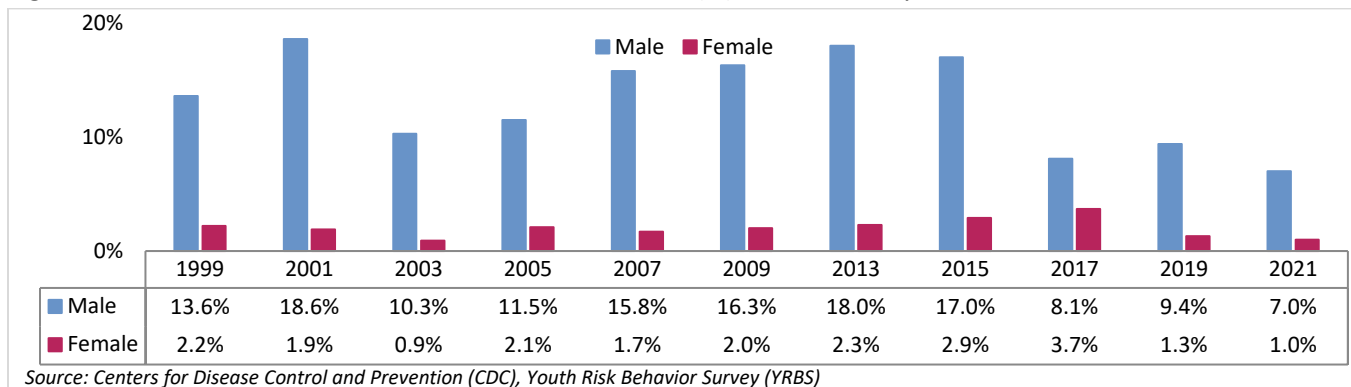


Figure 235: Estimated Past-Month E-Cigarette Use (%): Missouri, by Grade, 2014-2024.



In 2021-2022, 24.7% of adults over the age of 26 smoked cigarettes in the past month while only 16.4% of 18-25 year-old adults indicated smoking. There is a gap among male and female past-month cigarette use. Males are more likely to report using smokeless tobacco in the last month than females. In 2021, seven percent of males and only one percent of females use smokeless tobacco. Missouri data for 2011 is not available.

Figure 24: Estimated Past-Month Smokeless Tobacco Use (%) in Missouri, By Gender, 1999-2021.



Daily Use

In 2022, 12.3% of all Missourians aged 18 and older reported smoking cigarettes daily in the past month. This is a number that is above the national average of 9.8%. Males were slightly more likely than females to report daily smoking.

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Figure 25: Estimated Daily Cigarette Use (%): U.S. and Missouri Ages 18 and Older, 2002-2022.

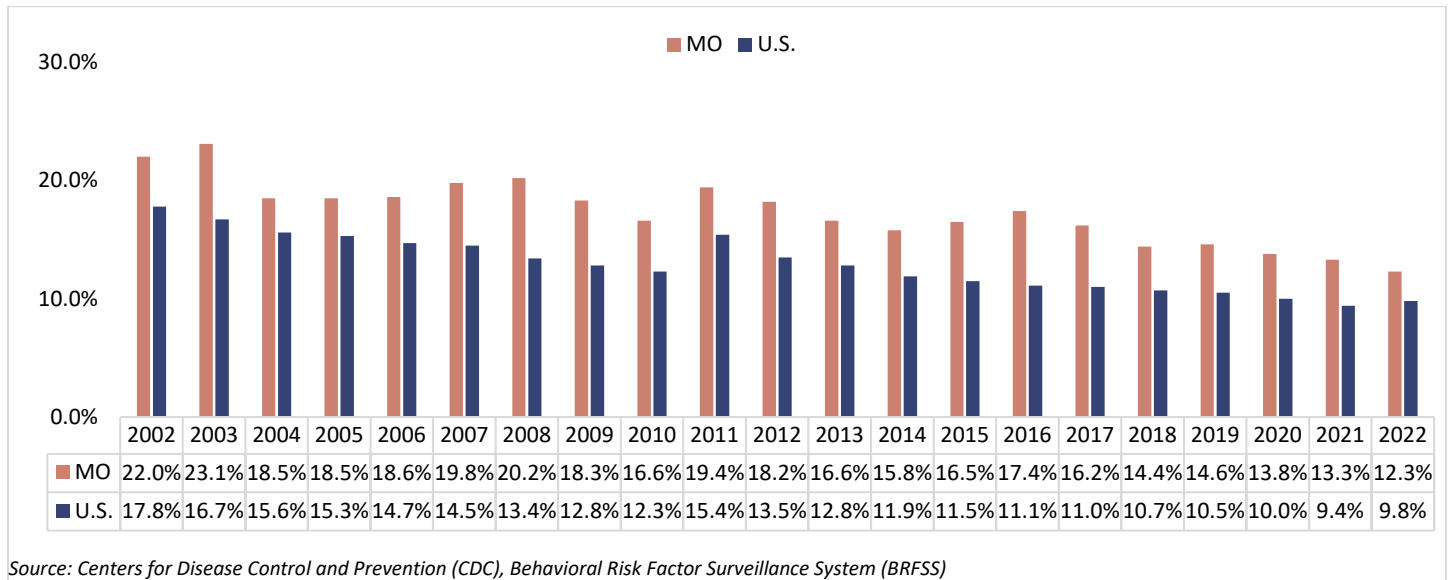
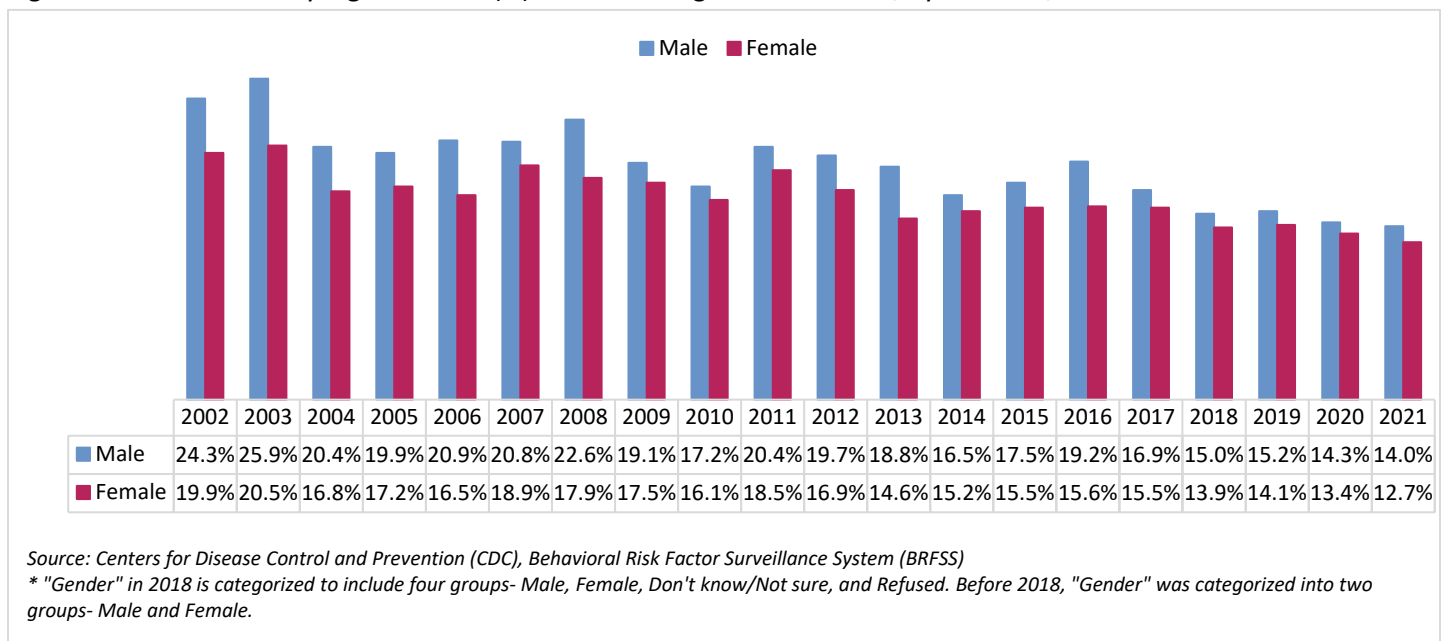
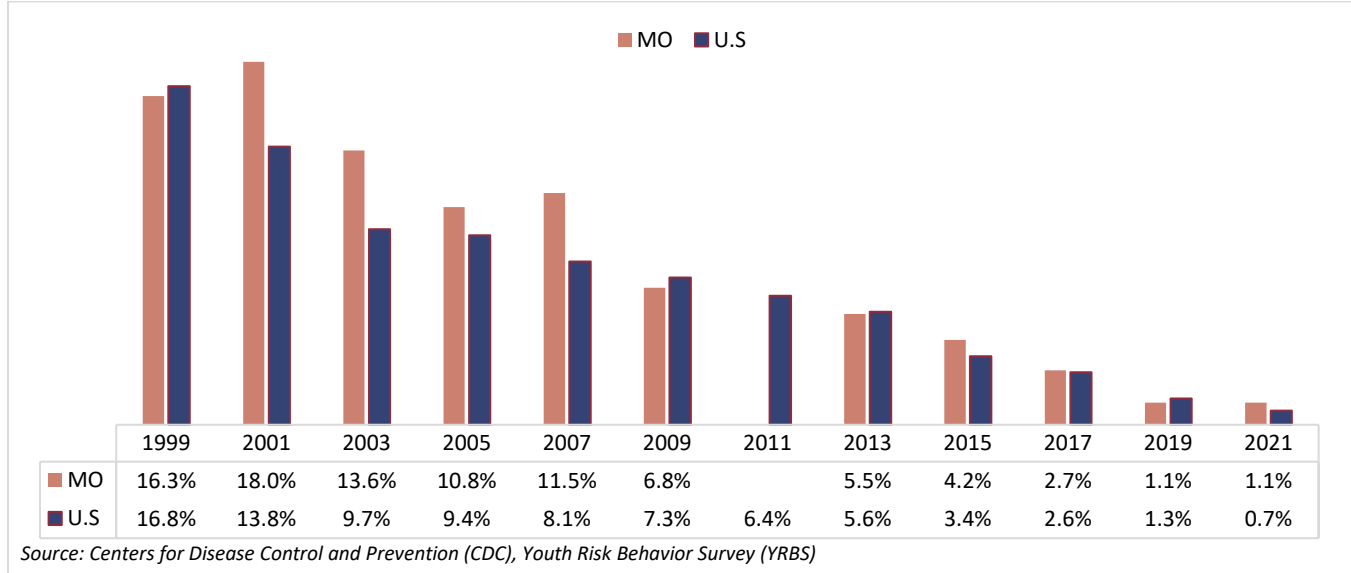


Figure 26: Estimated Daily Cigarette Use (%) in Missouri Ages 18 and Older, By Gender*, 2002-2021.



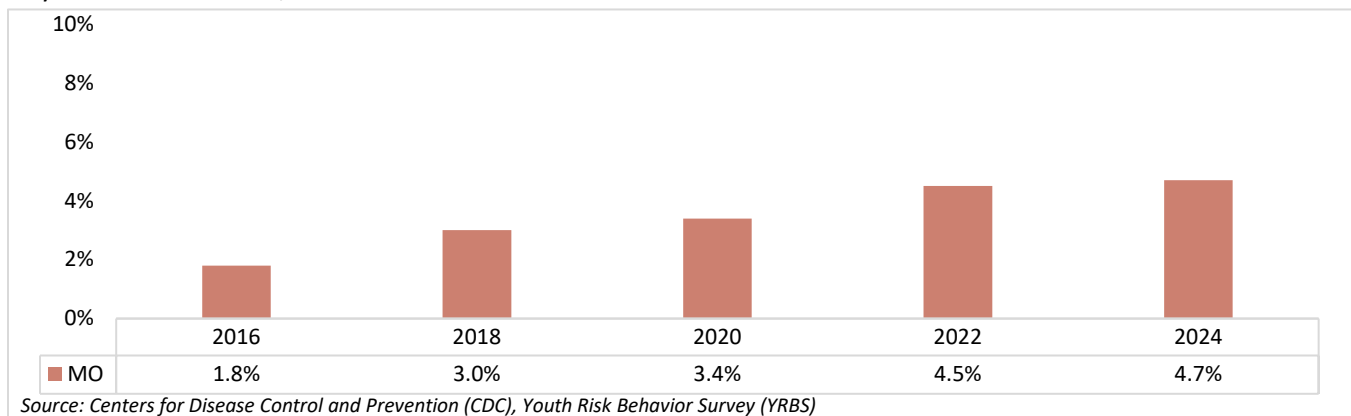
When looking at high school students only, Missouri is slightly higher than national average for smoking cigarettes on 20 or more days of the past month (1.1% vs 0.7%). Missouri data for 2011 is not available.

Figure 276: % of Students in 9-12 Grade Reporting Smoking Cigarettes on 20 or More Days within the Past 30 Days: U.S and Missouri, 1999-2021.



Data about e-cigarette habits were collected through the Missouri Student Survey. Statewide, it appears that the number of frequent users of e-cigarettes or vaping devices rose over time. In 2024, 4.7% of high school students reported vaping 20 or more days whereas in 2016, only 1.8% used vapes frequently.

Figure 287: % of Students in 9-12 Grade Reporting Vaping E-Cigarettes on 20 or More Days within the Past 30 Days: U.S and Missouri, 1999-2021.

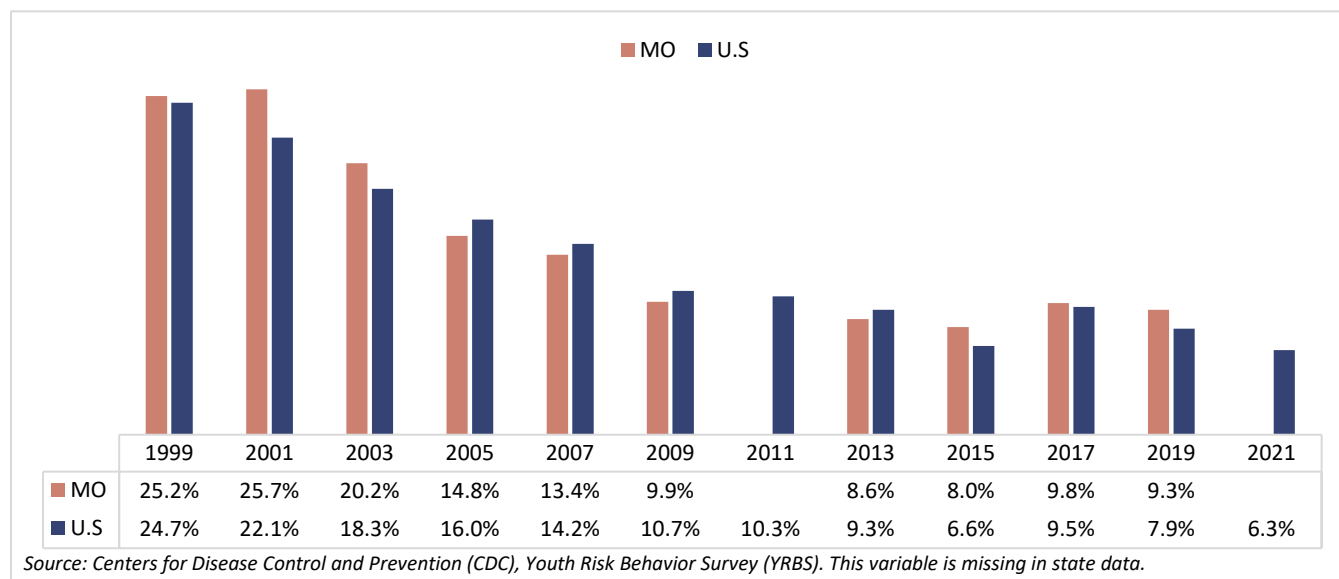


Age of First Use

In 2019, 9.3% of all Missouri students currently in high school reported using tobacco before the age of 13. This percentage has been above the national average and has been decreasing over the last decade.

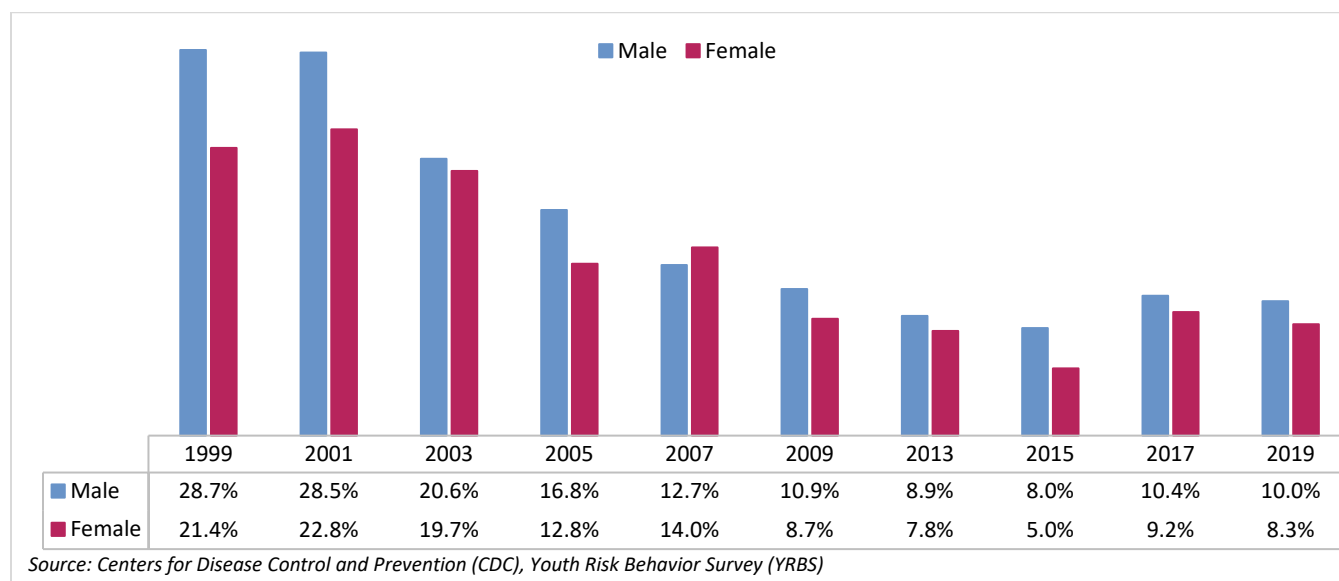
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Figure 29: % Students in 9-12 Grades Reporting First Use of Cigarettes Before Age 13, U.S. and Missouri, 1999-2021.



Males typically reported a higher percentage of tobacco use before age 13 than females. In 2019, the male percentage was 10.0% compared to 8.3% for females. Missouri data for 2011 and 2021 are not available.

Figure 30: % Students in 9-12 Grades Reporting First Use of Cigarettes Before Age 13 in Missouri, By Gender, 1999-2019.



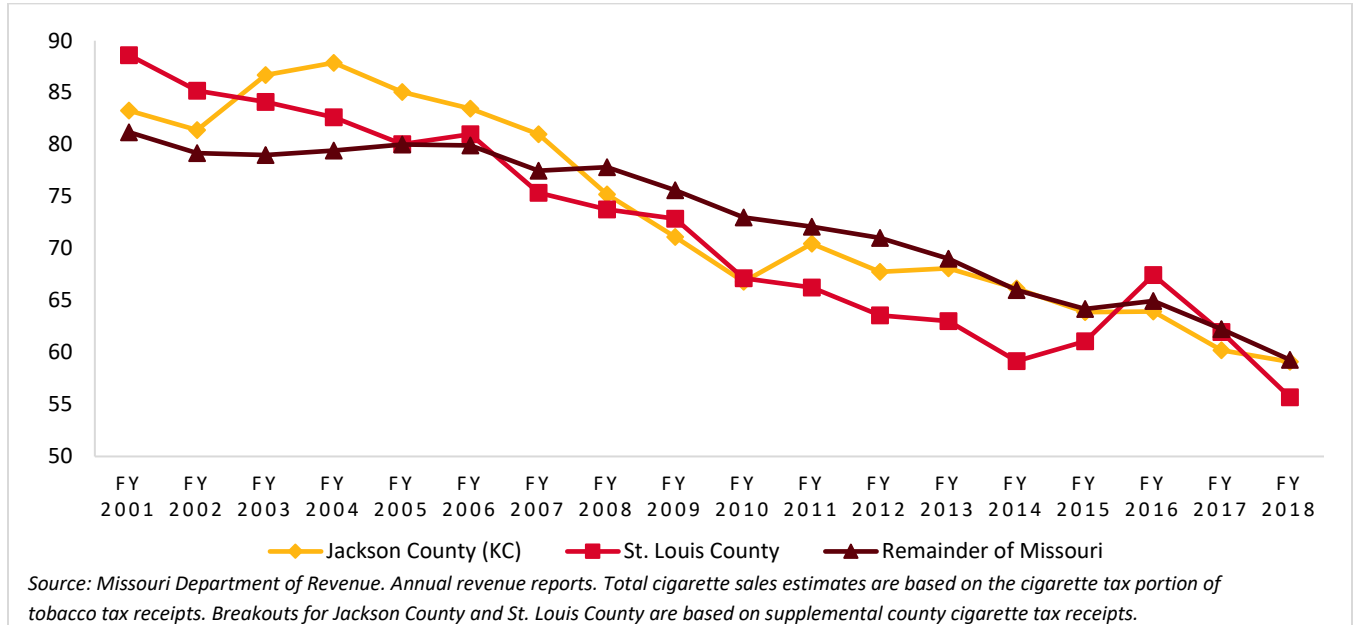
Per Capita Cigarette Consumption

Per Capita Cigarette consumption data should be interpreted cautiously – it may not be sensitive in identifying areas where a high prevalence of heavy use is also seen with high rates of abstinence.

Cigarettes sold per capita seem to indicate higher smoking rates in rural areas than in the major cities, although this number is declining. In 2018, Jackson County rates have been very similar to the remainder of Missouri.

Overall, the rates for all three regions have been approximately similar since 2015. The latest available data was in 2018 for this measure.

Figure 31: Packs of Cigarettes Per Capita Sold in Missouri Based on Cigarette Tax Revenues, by county, Fiscal Years 2001-2018.



Tobacco Use during Pregnancy

The percentage of women reporting using tobacco during pregnancy has been declining in Missouri over the past decade. In 2022, 7.9% of pregnant women in Missouri reported smoking during pregnancy. Although declining, this is more than double the US percentage of 3.7%.

In Missouri, white women are more likely to smoke during pregnancy than black women. Data was recalculated to reflect the most recent data.

Figure 32: % Births with Mother Using Tobacco during Pregnancy, U.S., and Missouri, 2012-2022.

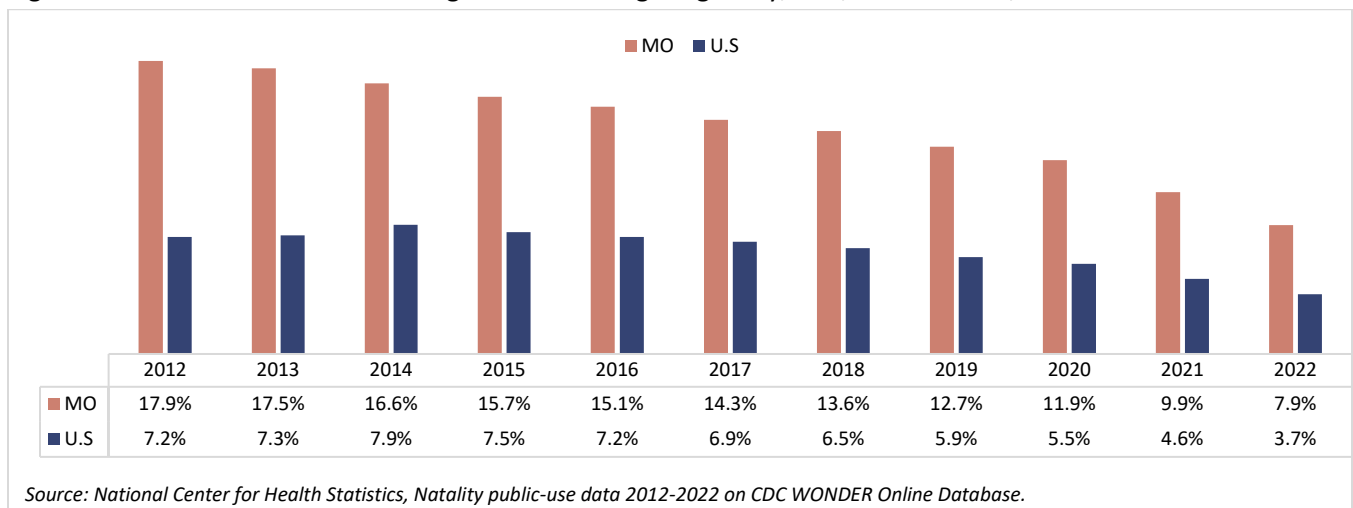
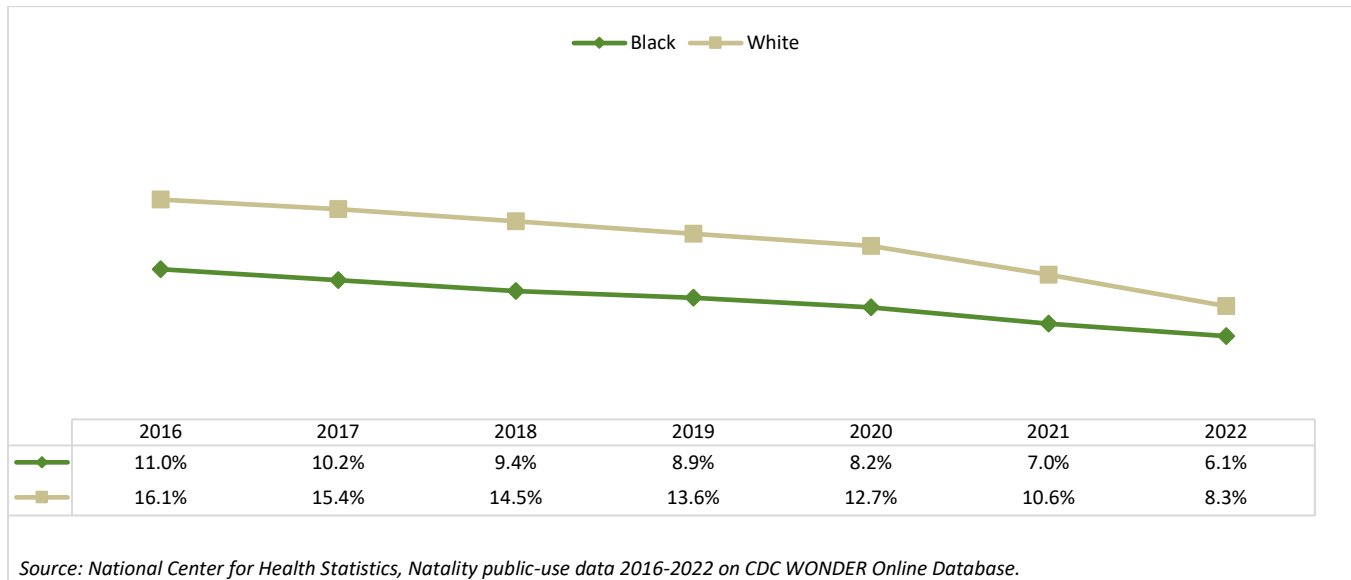


Figure 33: % Births with Mother Smoking during Pregnancy in Missouri, By Race, 2016-2022.



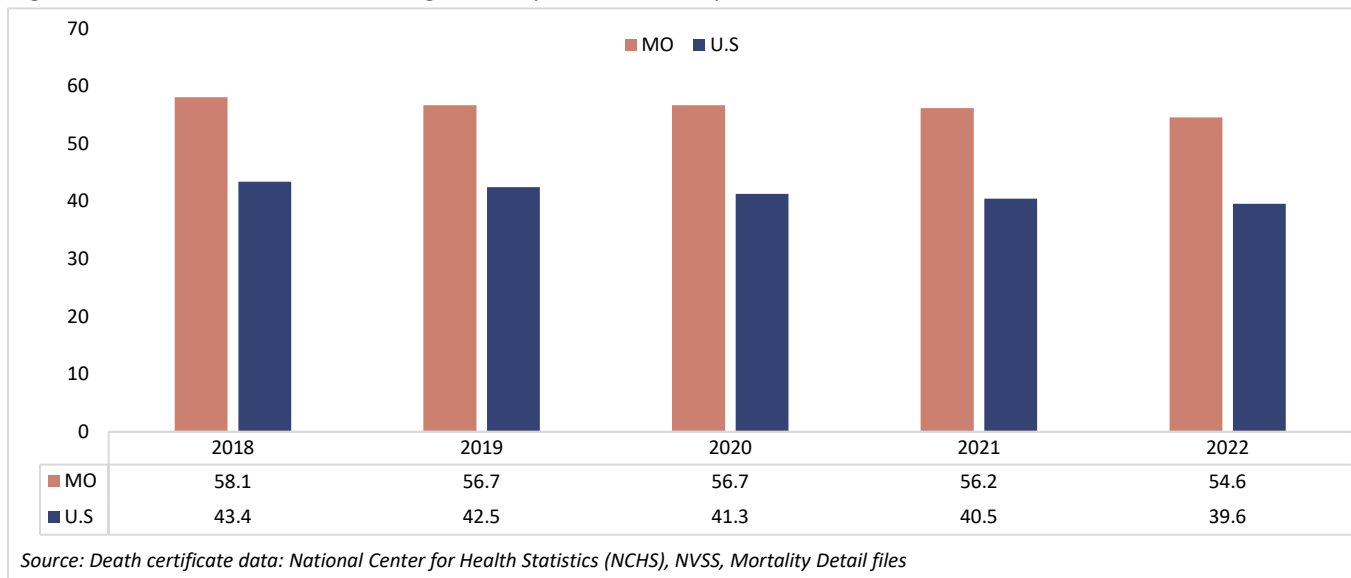
Tobacco Consequences

Mortality Rates

Missouri has been higher than the national average for rate of deaths due to lung cancer, COPD and emphysema, and cardiovascular and ischemic cerebrovascular disease for the last decade.

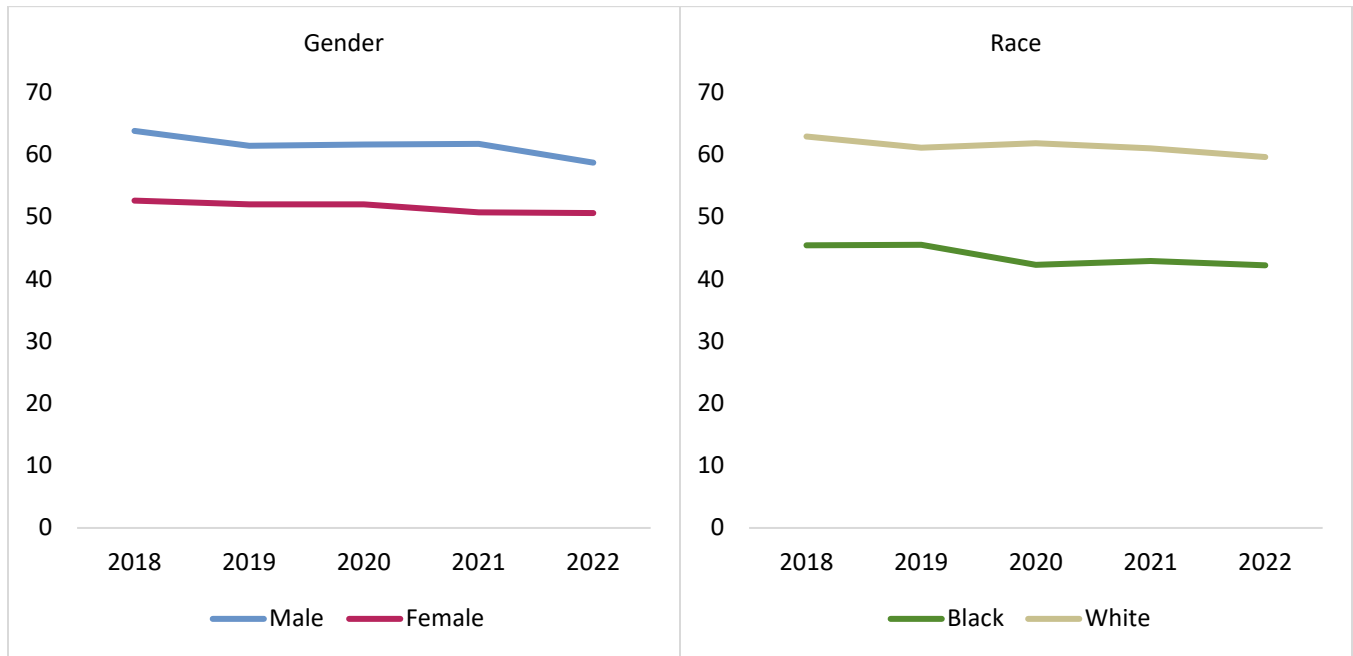
When looking at rates by demographics, men and white people are more likely to die due to lung cancer. Percentages were recalculated to reflect current data.

Figure 34: Rate of Deaths from Lung Cancer per 100,000 Population: U.S. and MO, 2018-2022.



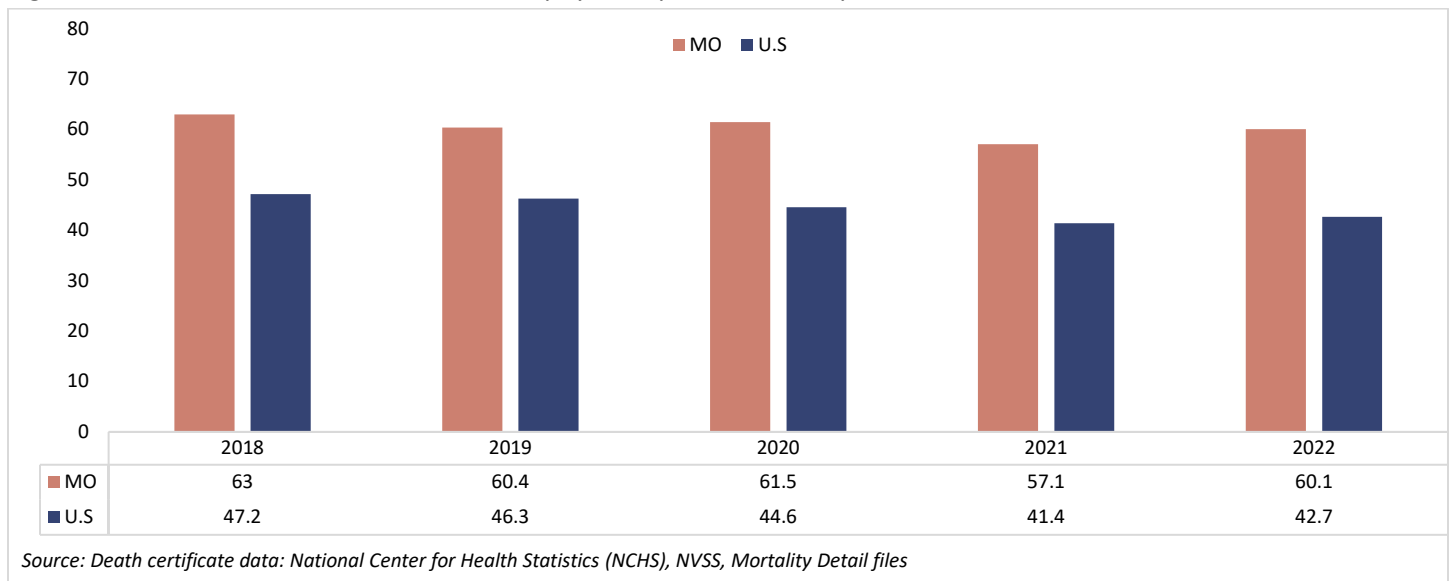
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Figure 35: Rate of Deaths from Lung Cancer by Demographics per 100,000 Pop: MO only, 2018-2022.



Source: National Center for Health Statistics. Underlying Cause of Death 2018-2022 on CDC WONDER Online Database

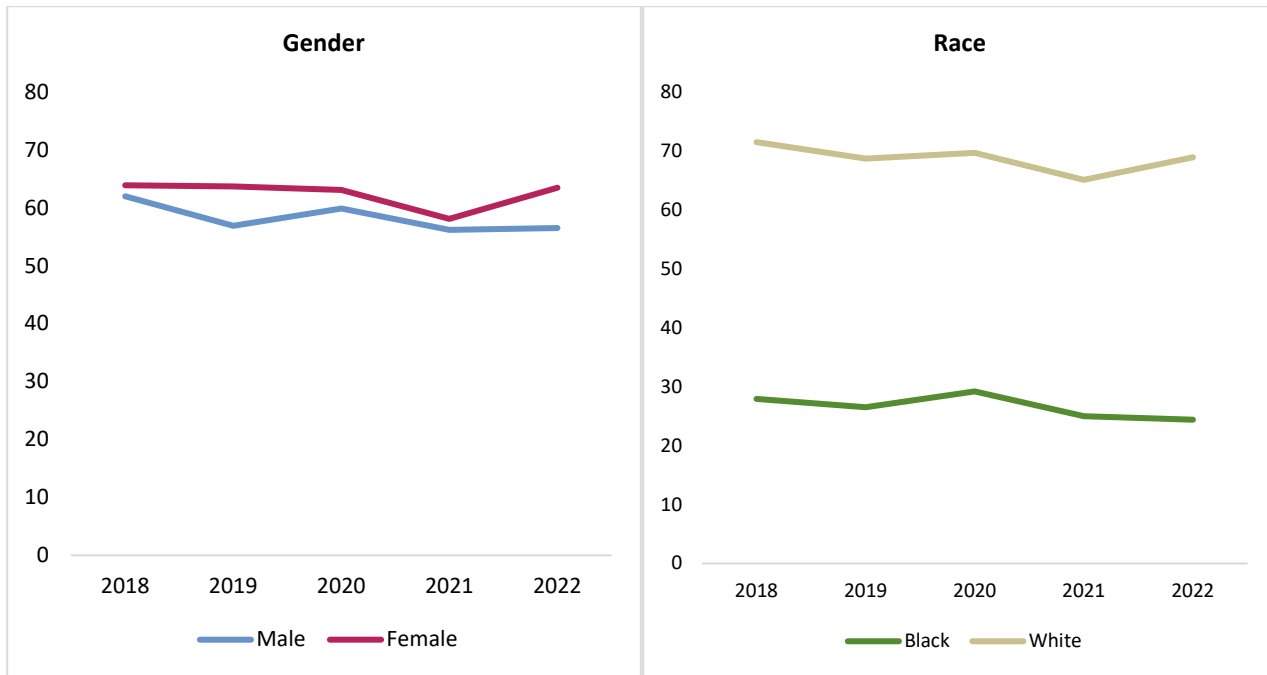
Figure 36: Rate of Deaths from COPD and Emphysema per 100,000 Population: U.S. and MO, 2018-2022.



Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files

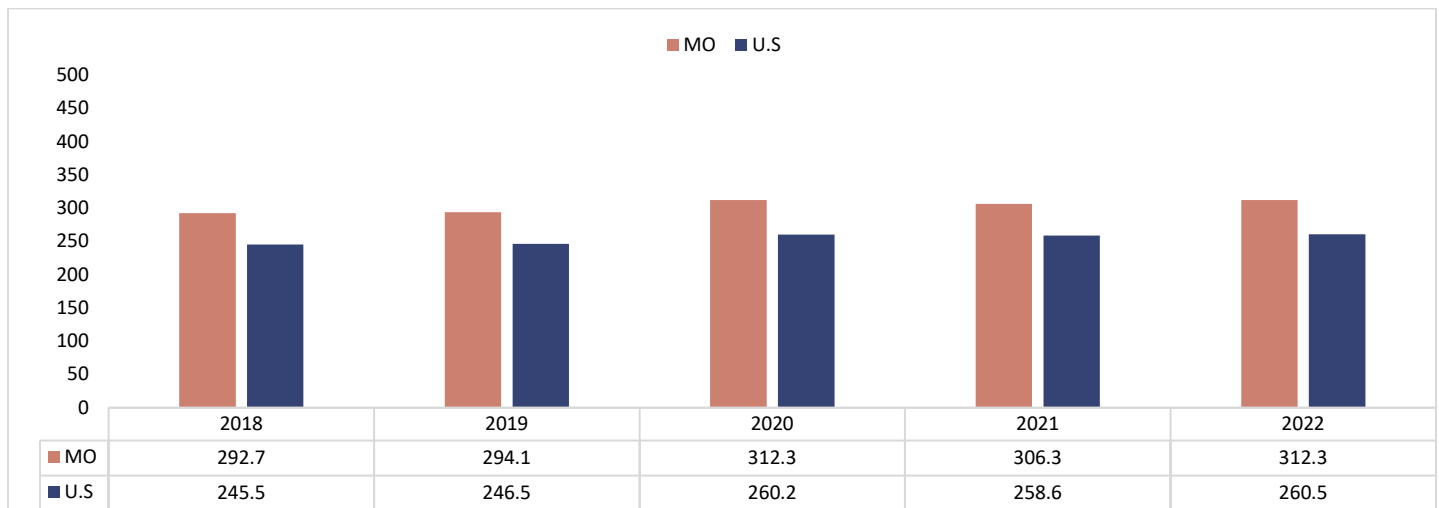
STATE EPIDEMIOLOGY PROFILE- 2024

Figure 37: Rate of Deaths from COPD and Emphysema by Demographics per 100,000 Pop: MO only, 2018-2022.



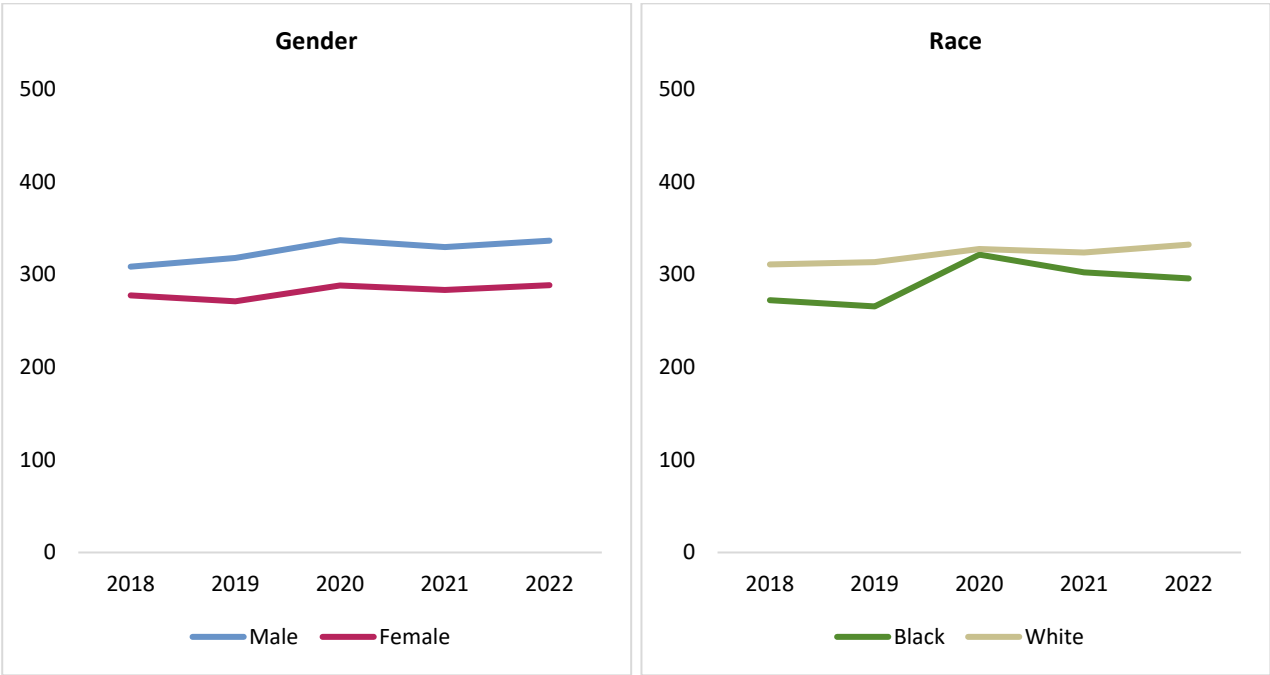
Source: National Center for Health Statistics. Underlying Cause of Death 2018-2022 on CDC WONDER Online Database

Figure 38: Rate of Deaths from Cardiovascular and Ischemic Cerebrovascular Disease per 100,000 Pop: U.S. and MO, 2018-2022.



Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files

Figure 39: Rate of Deaths from Cardiovascular and Ischemic Cerebrovascular Disease by Demographics per 100,000 Pop: MO only, 2018-2022.



Source: National Center for Health Statistics. Underlying Cause of Death 2018-2022 on CDC WONDER Online Database



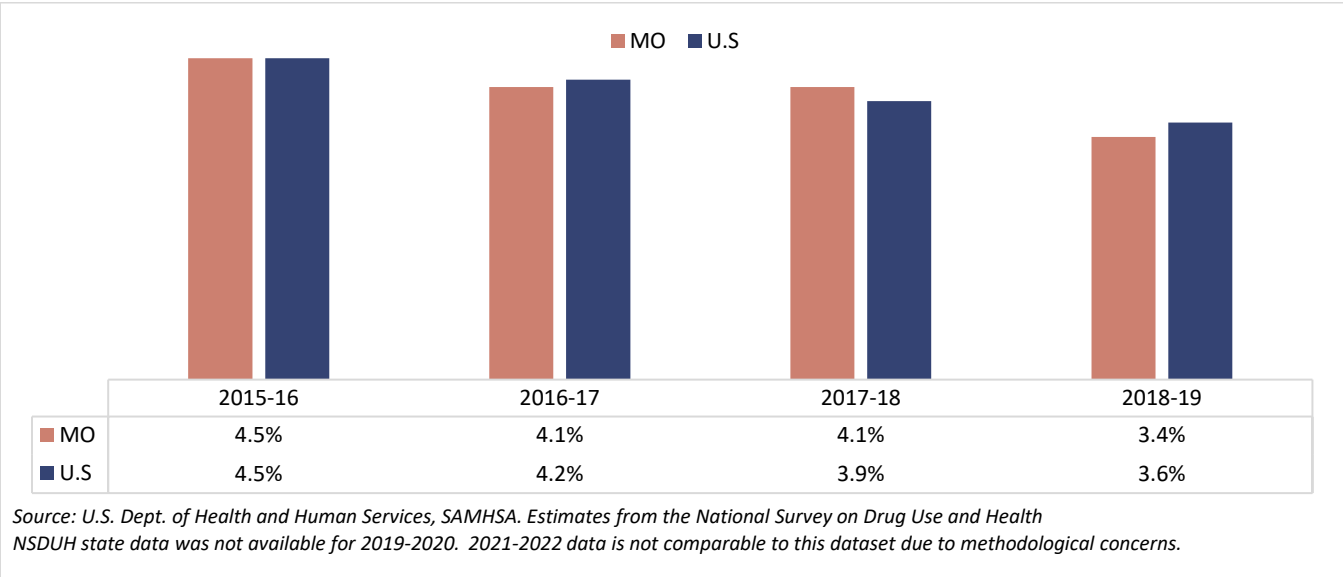
PRESCRIPTION DRUGS

Nonmedical Use of Pain Relievers in the Past Year

In 2015, NSDUH updated the survey question to reflect use of a pain reliever “in a way that the doctor did not direct you to use them” rather than “nonmedical use”. Because of this, data prior to 2015 are not comparable. To review data prior to 2015, refer to the [2017 Missouri Epidemiological Profile](#).

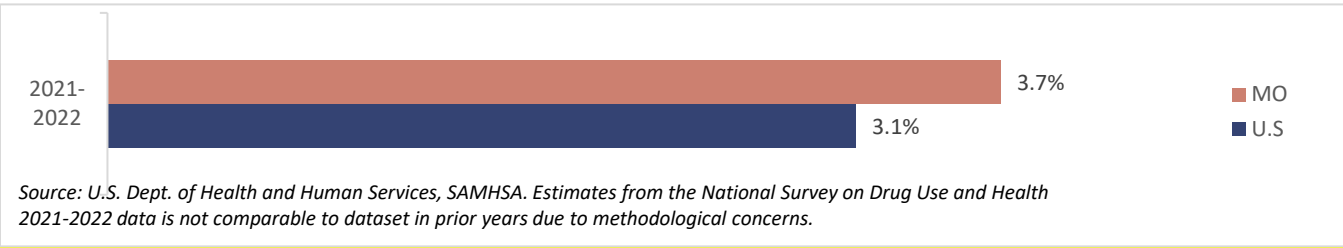
Past year prescription pain reliever misuse has continued to drop over time, lowering from 4.5% of adults aged 12 and older in Missouri in 2015-2016 to 3.4% in 2018-2019.

Figure 40: Estimated Past Year Prescription Pain Reliever Misuse (%): U.S. and Missouri Ages 12 and Older, 2015-2019.



According to 2021-2022 data, 3.7% of all Missourians aged 12 and older reported using pain relievers in a way a doctor did not prescribe them. This number is under the national average of 3.1%.

Figure 41: Estimated Past Year Non-Medical Use of Pain Relievers (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



In the past, the 18-25 year-old category has had the highest percentage of people misusing prescription pain relievers in the past year. In 2021, 4.1% of those 26 or older misused prescription drugs while only 2.7% of 18 to 25 year-olds did.

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Figure 42: Estimated Past Year Prescription Pain Reliever Misuse (%) in Missouri, By Age Group, 2015-2019.

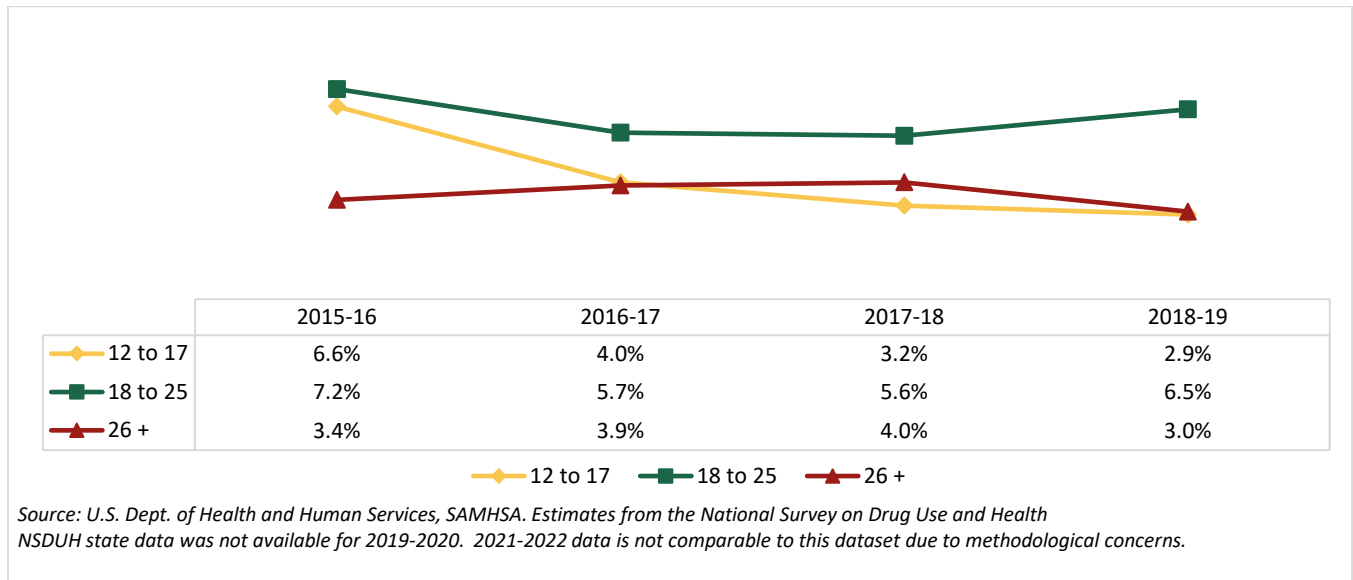
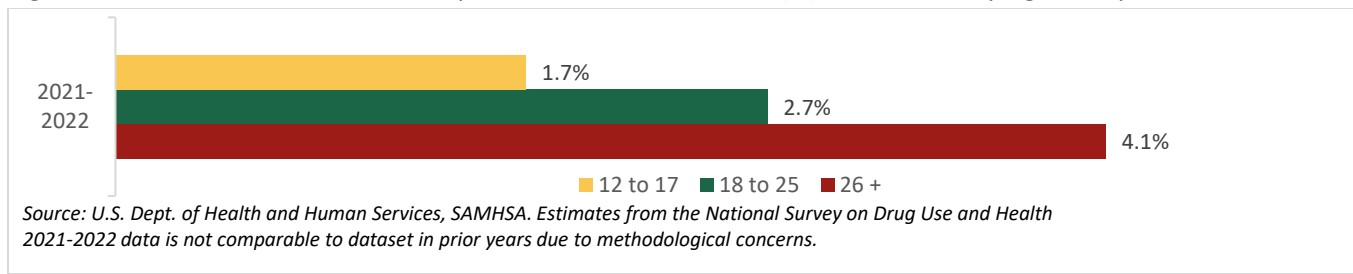


Figure 43: Estimated Past Year Prescription Pain Reliever Misuse (%) in Missouri, By Age Group: 2021-2022.



Prescription Drug-Related Mortality

Missouri consistently had higher than the national average for rate of deaths due to prescription drugs, although the gap is closing as both have been increasing over time.

When looking at rates by demographics, men are more likely than women to die due to prescription drugs. In recent years, deaths among black people have increased, rising to 69.1 per 100,000. Numbers have been recalculated to reflect current data.

Figure 44: Rate of Deaths from Prescription Drug per 100,000 Pop: U.S. and Missouri, 2018-2022.

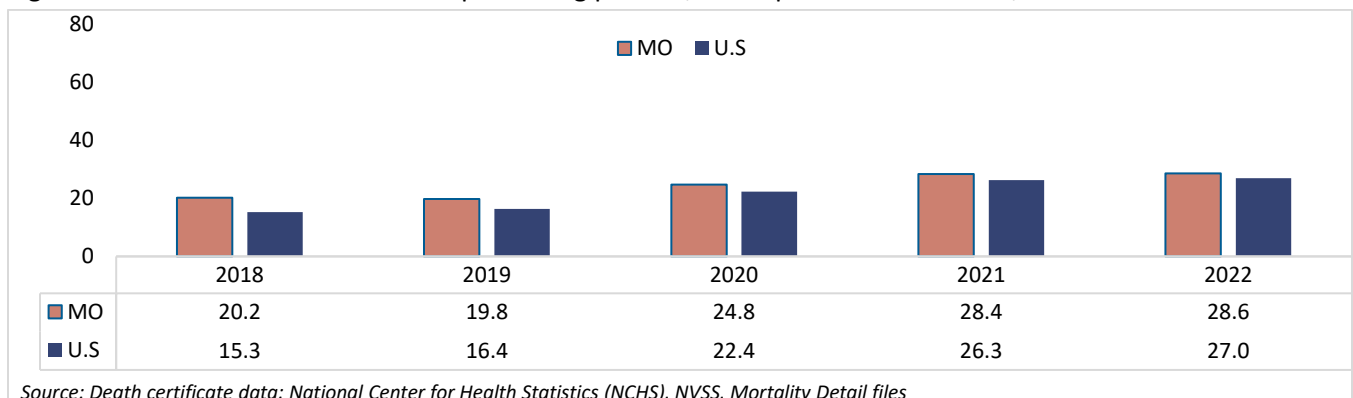
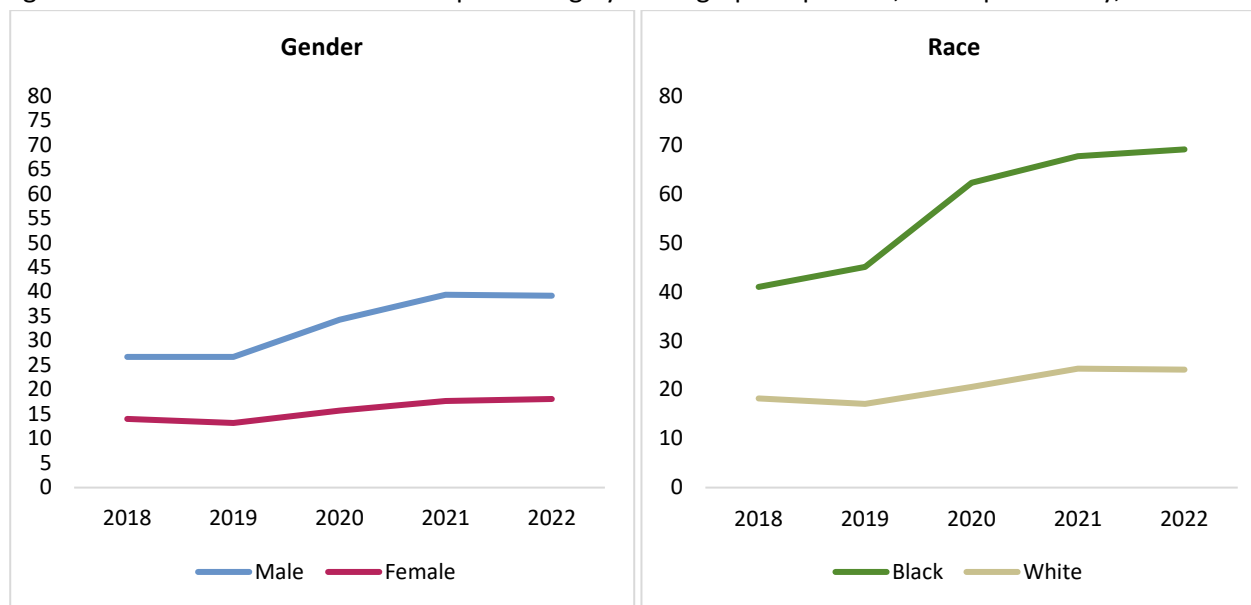


Figure 45: Rate of Deaths from Prescription Drug by Demographics per 100,000 Pop: MO only, 2018-2022.



Source: National Center for Health Statistics. Underlying Cause of Death 2018-2022 on CDC WONDER Online Database



ILLCIT DRUGS

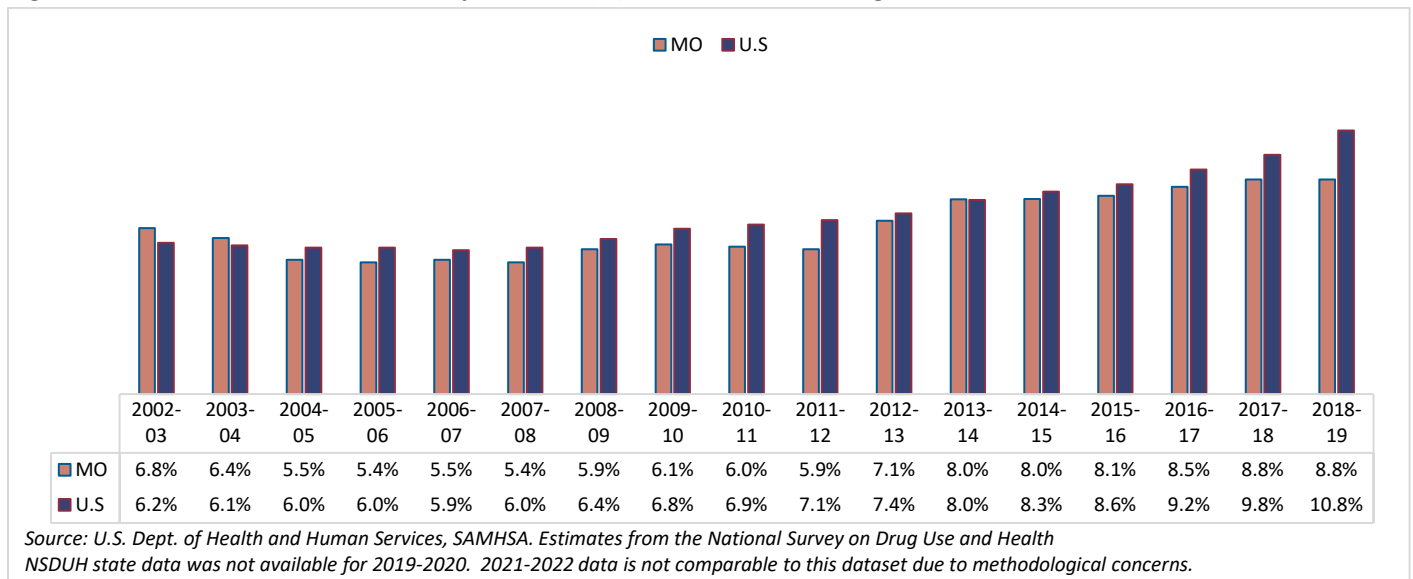
Illicit Drugs

Marijuana

The percentages of people over the age of 12 who reported past month use of marijuana slowly increased from 6.8% in 2002-2003 to 8.8% in 2018-2019 in Missouri. Missouri's percentages of past month use have been lower than the United States'.

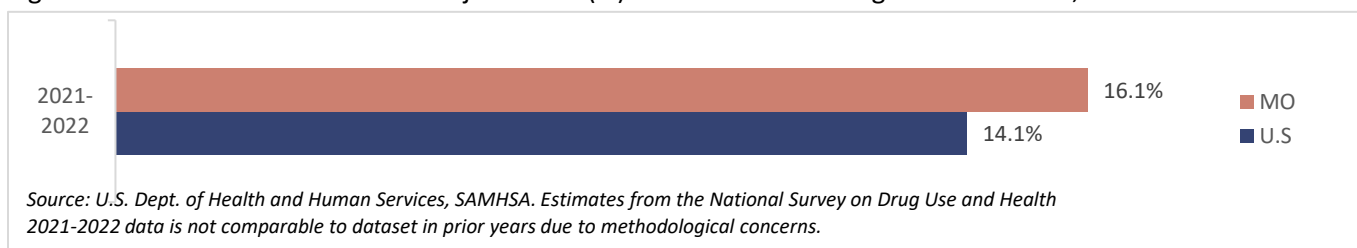
Current information for illicit drug use among Missouri students can be found in the [Missouri Student Survey report](#).

Figure 46: Estimated Past-Month Marijuana Use (%): U.S. and Missouri Ages 12 and Older, 2002-2019.



In 2021-2022, however, Missouri has higher rates of people using marijuana in the past month than rates of people nationwide. About 16.1% of Missouri respondents said they used marijuana compared to 14.1% nationally.

Figure 47: Estimated Past-Month Marijuana Use (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



Those in the 18-25 year-old age range use marijuana at higher rates than the other two age groups. While 6.5% of 12-17 year-olds and 15.6% of those aged 26 and older, 26.2% of participants in the 18-25 age range used marijuana in the past month according to 2021-2022 data.

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Figure 48: Estimated Past-Month Marijuana Use (%): In Missouri by Age Group, 2002-2019.

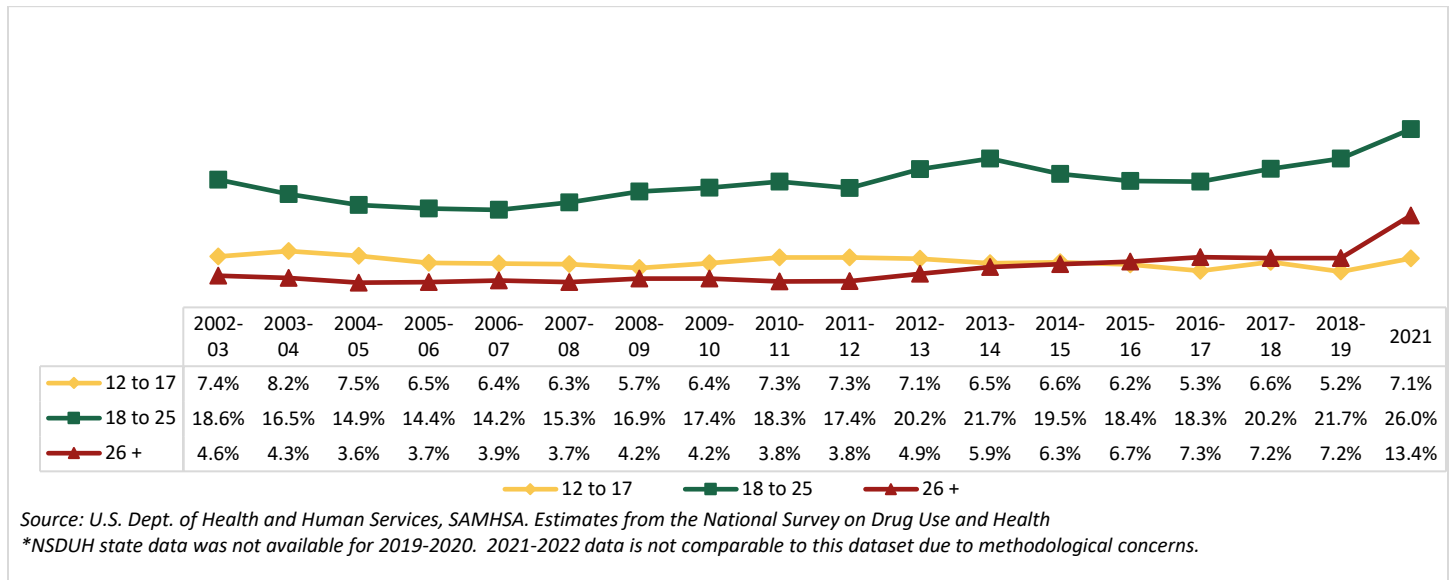
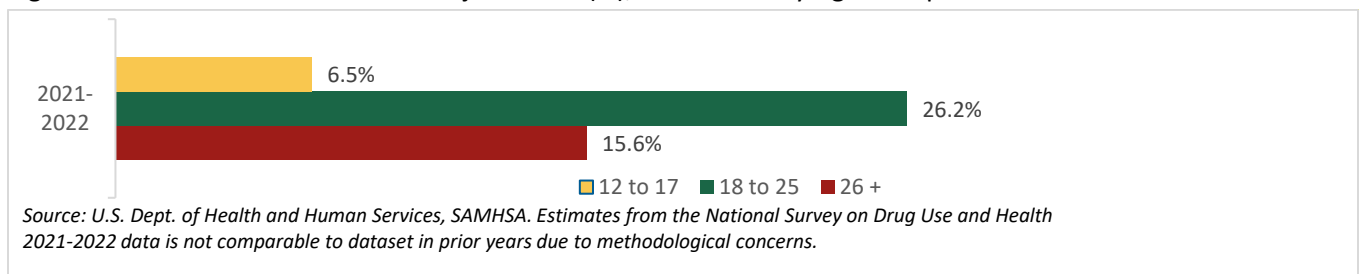


Figure 49: Estimated Past-Month Marijuana Use (%), In Missouri By Age Group: 2021-2022.



Other Illicit Drugs

“Other illicit drugs” is defined as an illegal drug other than marijuana, or an abusable product that can be obtained legally, such as prescription drugs. In 2015, NSDUH made changes to survey questions on hallucinogens, inhalants, methamphetamine, and psychotherapeutic drugs. Therefore, data prior to 2015 are no longer comparable to current data. To review data prior to 2015, refer to the [2017 Missouri Epidemiological Profile](#).

Missouri and US percentages for past month illicit drug use have remained similar over time. In 2021-2022, 3.5% of participants over the age of 12 consumed illicit drugs in the past month other than marijuana.

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Figure 50: Estimated Past-Month Illicit Drug Use Other Than Marijuana (%): U.S. and Missouri Ages 12 and Older, 2015-2019.

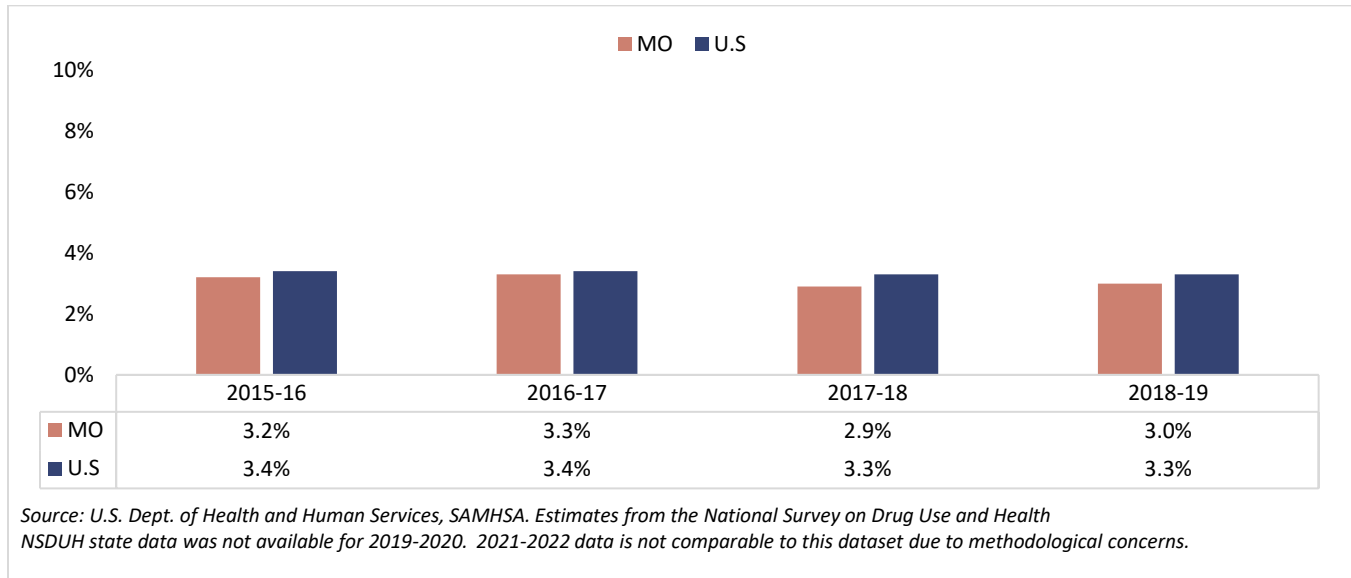
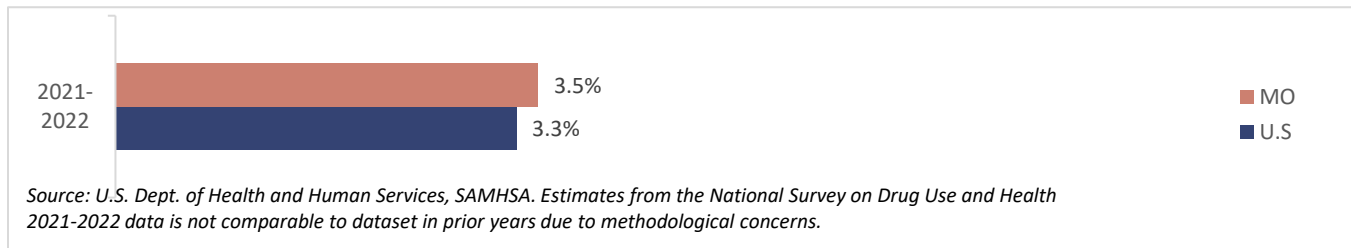


Figure 51: Estimated Past-Month Illicit Drug Use Other Than Marijuana (%): U.S. and Missouri Ages 12 and Older, 2021-2022.



When separated by age group, those in the 18-25 year-old range showed higher percentages of illicit drug use in the past month. This has remained constant over time. In 2021-2022, 4.1% of 18-25 year-olds used illicit drugs in the past month whereas only 1.9% of 12-17 year-olds and 3.6% of those in the 26+ range.

Figure 52: Estimated Past-Month Illicit Drug Use (Not Marijuana) (%): In Missouri by Age Group, 2015-2019.

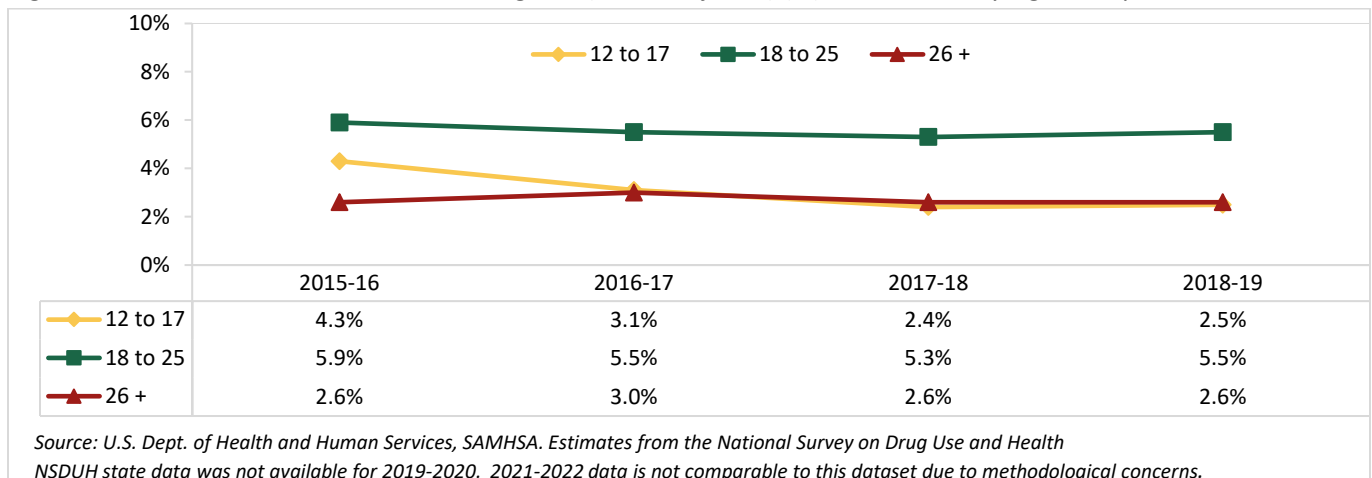
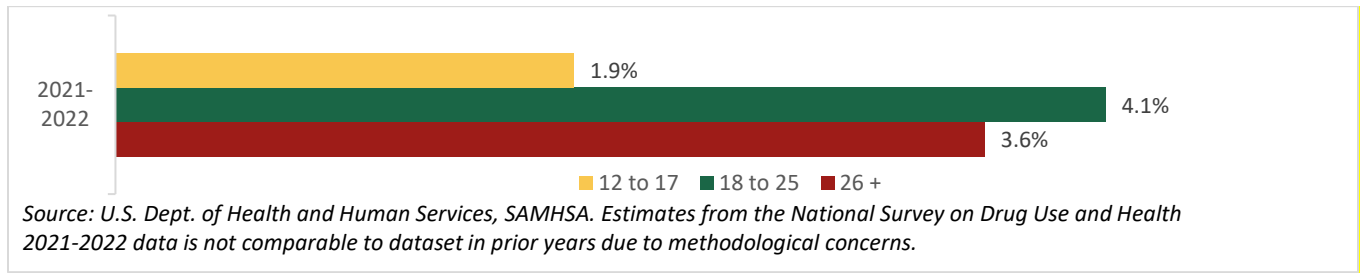


Figure 53: Estimated Past-Month Illicit Drug Use (Not Marijuana) (%), In Missouri By Age Group: 2021-2022.



Illicit Drug Consequences

Illicit Drug-Related Mortality

In 2022, 1.3 per 100,000 population of those in Missouri and 1.2 per 100,000 of those in the US died from drug-related behavior. Men are more likely than women to die due to drug related behavior. Since 2015, black people experienced a higher mortality rate burden than Caucasians from drug-related behavior.

Figure 54: Rate of Deaths from Drug Related Behavior per 100,000 Pop: U.S. and Missouri, 2018-2022.

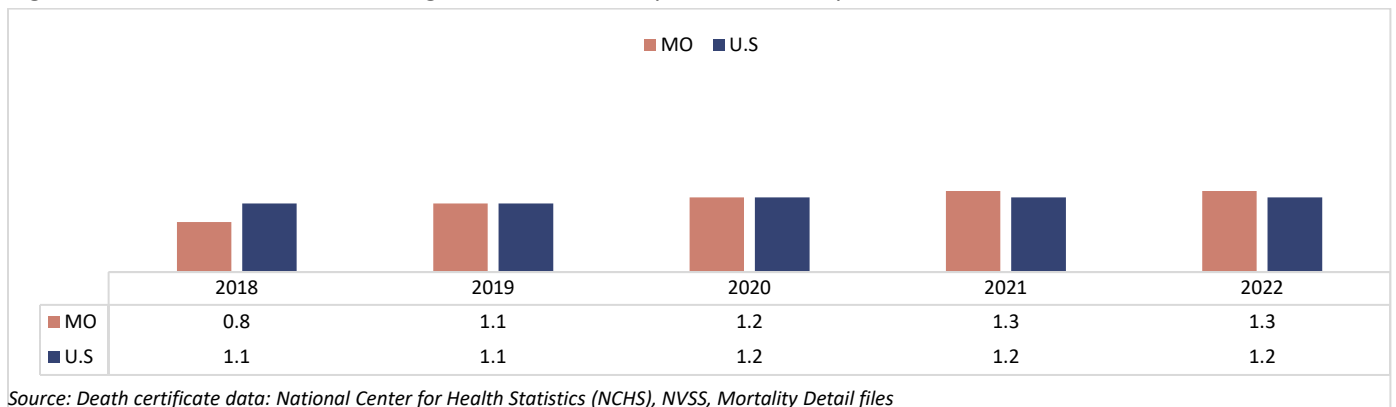
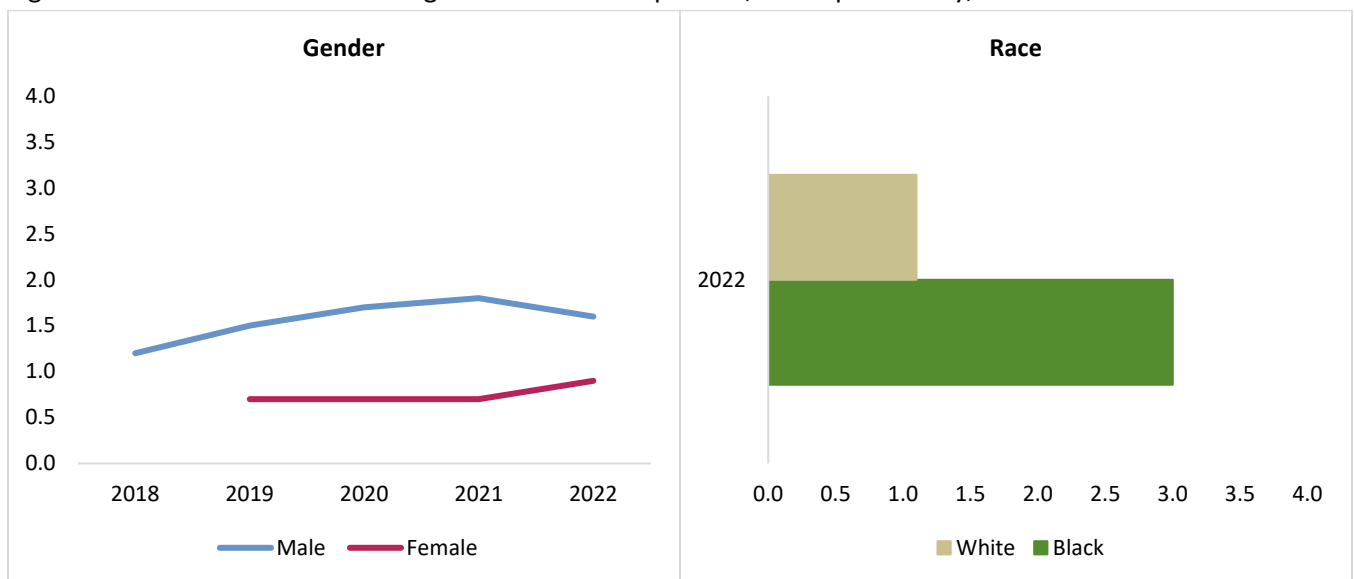
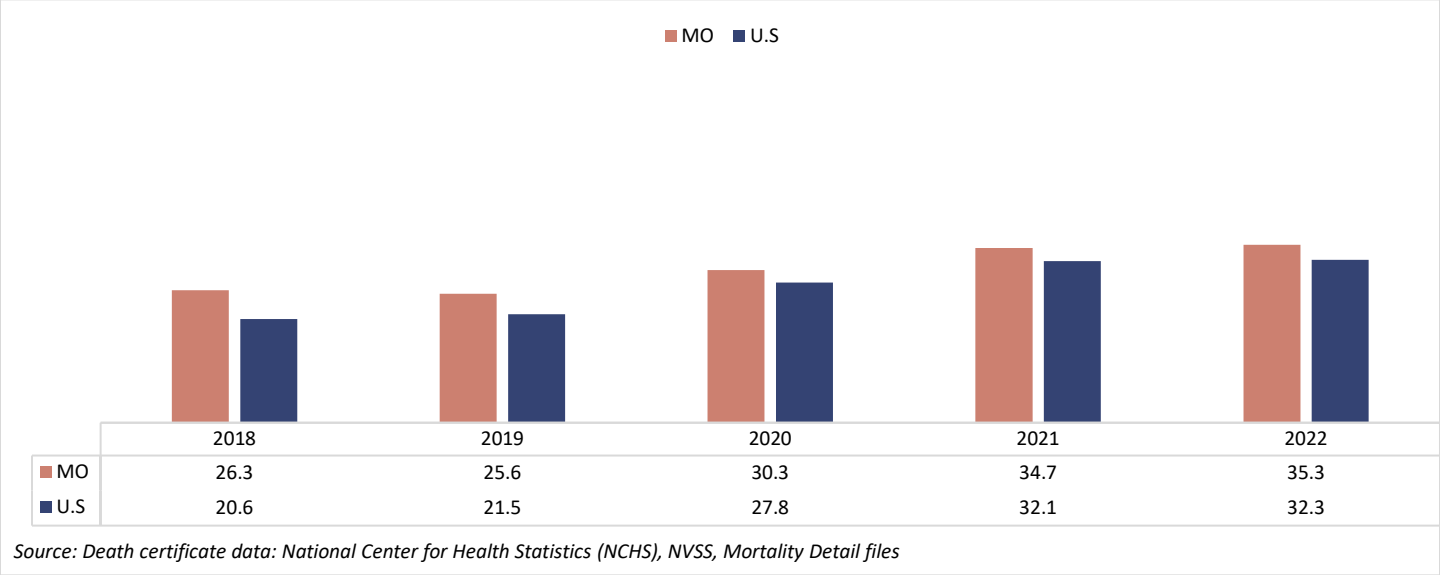


Figure 55: Rate of Deaths from Drug Related Behavior per 100,000 Pop: MO only, 2018-2022.



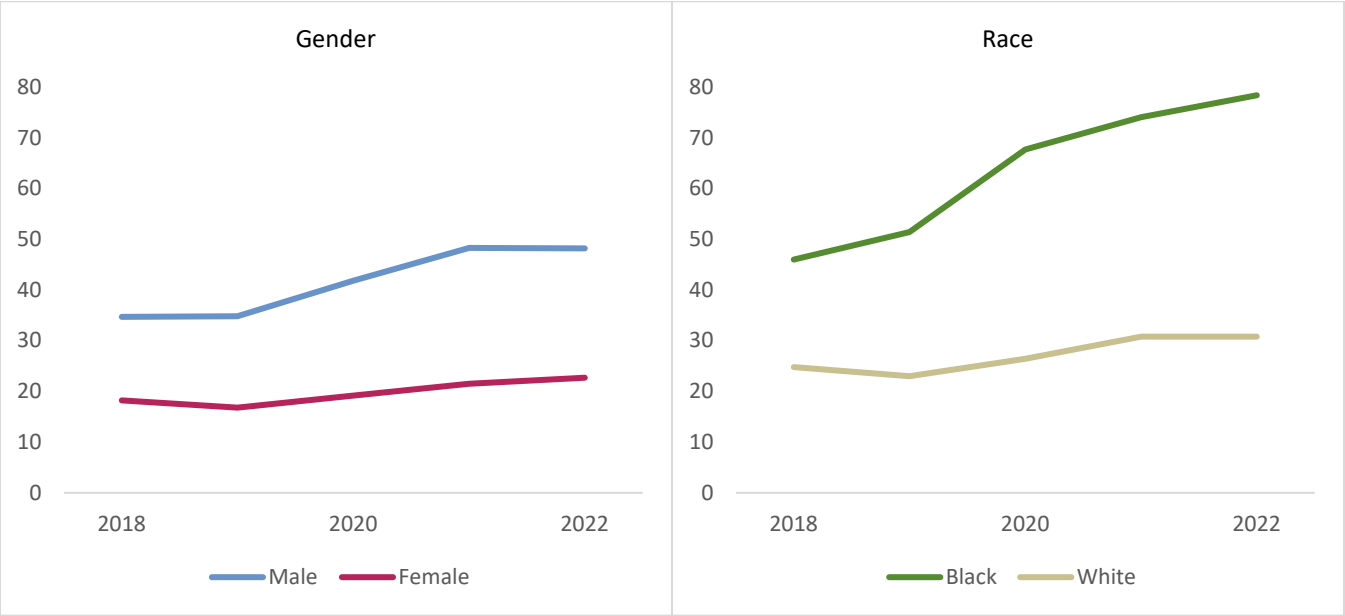
Missouri had higher than the national average for rate of deaths related to drug related overdose/ poisonings since 2003. This number has been consistently increasing for both Missouri and the U.S.

Figure 56: Rate of Deaths from Drug Related Overdose/Poisonings per 100,000 population: U.S. and Missouri, 2018-2022.



Men are more likely than women to die from drug related overdose/poisonings. Deaths among black people have increased and is more when compared to white people. Data has been recalculated to reflect current rates.

Figure 57: Rate of Deaths from Drug Related Overdose/Poisonings by Demographics per 100,000 Pop: MO only, 2018-2022.

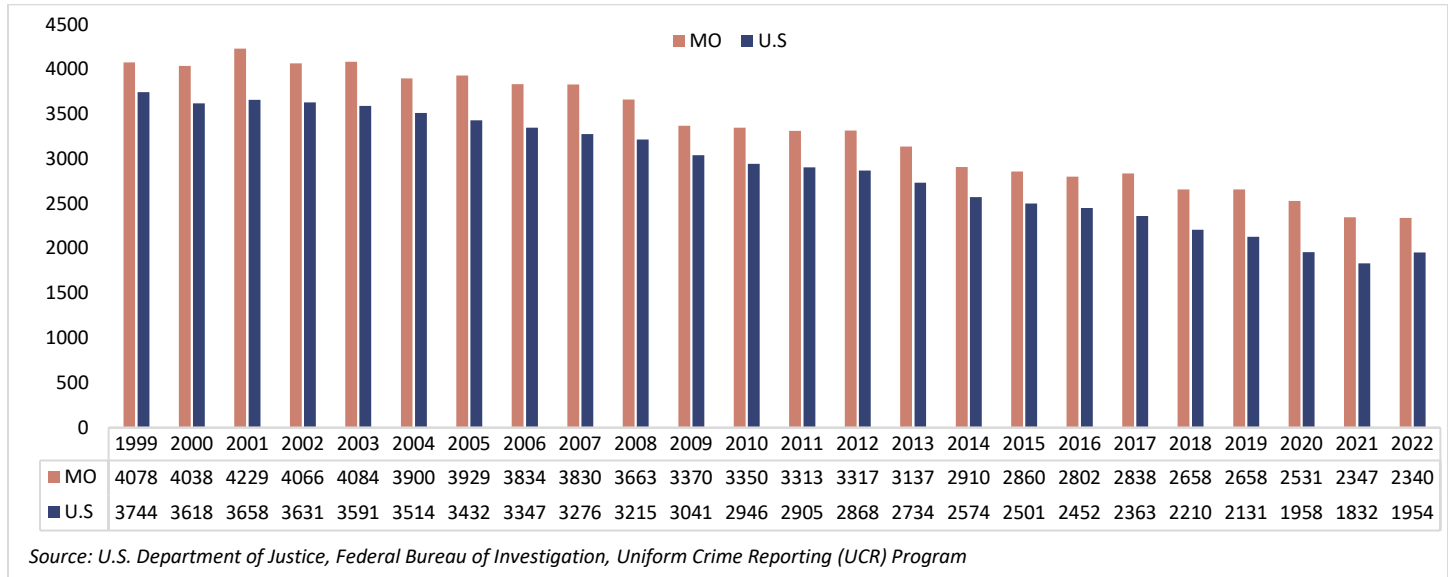


Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files

Crime

Missouri has been higher than the national average for number of property crimes for the last decade. Rates for Missouri has been trending downward since 2001.

Figure 58: Number of Property crimes (larceny, burglary, motor vehicle theft, arson) Reports to Police per 100,000 Pop, U.S. and Missouri, 1999-2022.



Illicit Drug Use Disorder

Illicit Drug Use Disorder is defined as meeting criteria for illicit drug dependence or abuse. In 2015, NSDUH made changes to survey questions on hallucinogens, inhalants, methamphetamine, and psychotherapeutic drugs. Therefore, data prior to 2015 are no longer comparable to current data. To review data prior to 2015, refer to the [2017 Missouri Epidemiological Profile](#).

There has not been much change over time in the percentages of people reporting illicit drug use disorder over time, and Missouri percentages are similar to US percentages in the past. The data from the National Survey on Drug Use and Health from 2020-2021 may not be compared to previous years, and therefore, the following data should be interpreted cautiously if side-by-side. In 2020-2021, 10.2% of people aged 12 and over in Missouri said they had a drug use disorder, while nationwide, 9.2% reported the same.

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Figure 59: Persons Aged 12 or Older Reporting Illicit Drug Use Disorder (%): U.S. and Missouri Ages 12 and Older, 2015-2019.

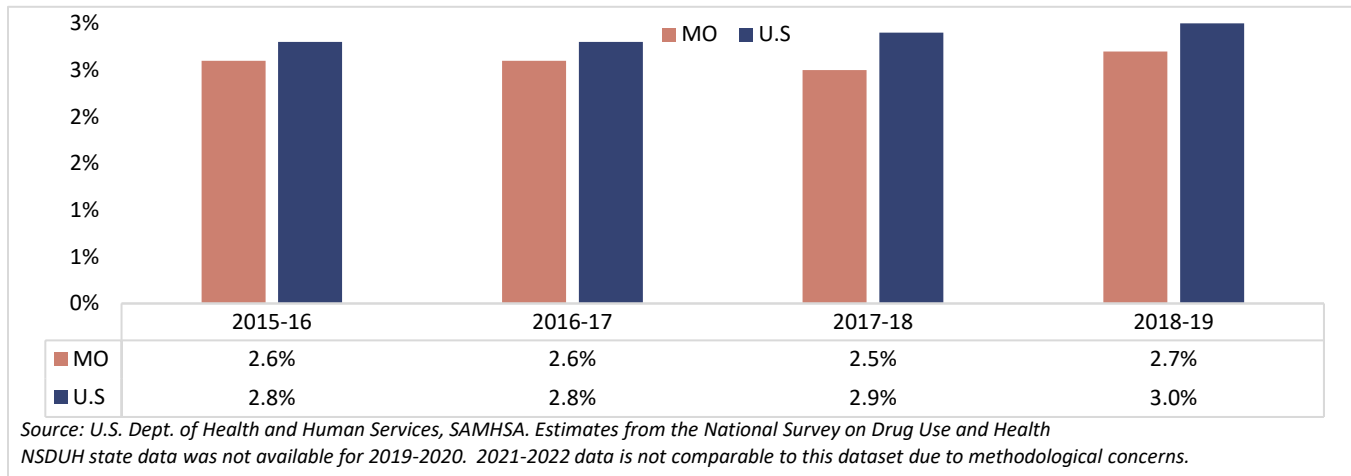
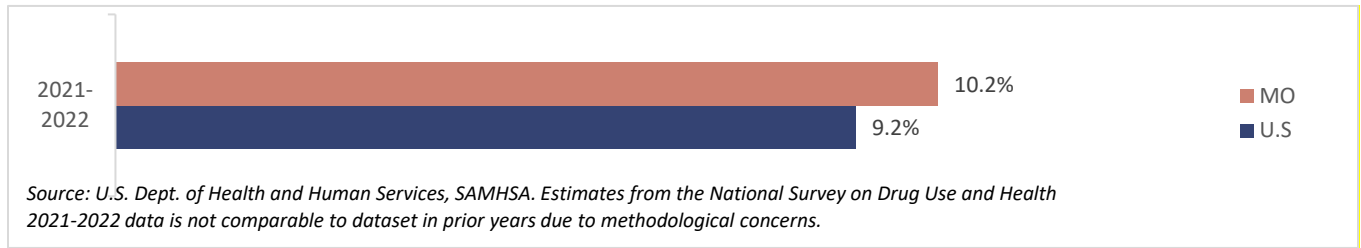


Figure 60: Persons Aged 12 or Older Reporting Drug Use Disorder (%): U.S. and Missouri Ages 12 and Older, 2021-2022. NOTE: Change in graph scale, variable name, and variable parameters in 2021-2022.



Those in the 18-24 year-old range are more likely to report an illicit drug use disorder. In 2021-2022, 17.3% of 18-24 year-olds self-reported having an illicit drug use disorder compared to 9.4% of those aged 26+ and 8.1% of 12-17 year-olds.

Figure 61: Persons Aged 12 or Older Reporting Illicit Drug Use Disorder (%), 2015-2019.

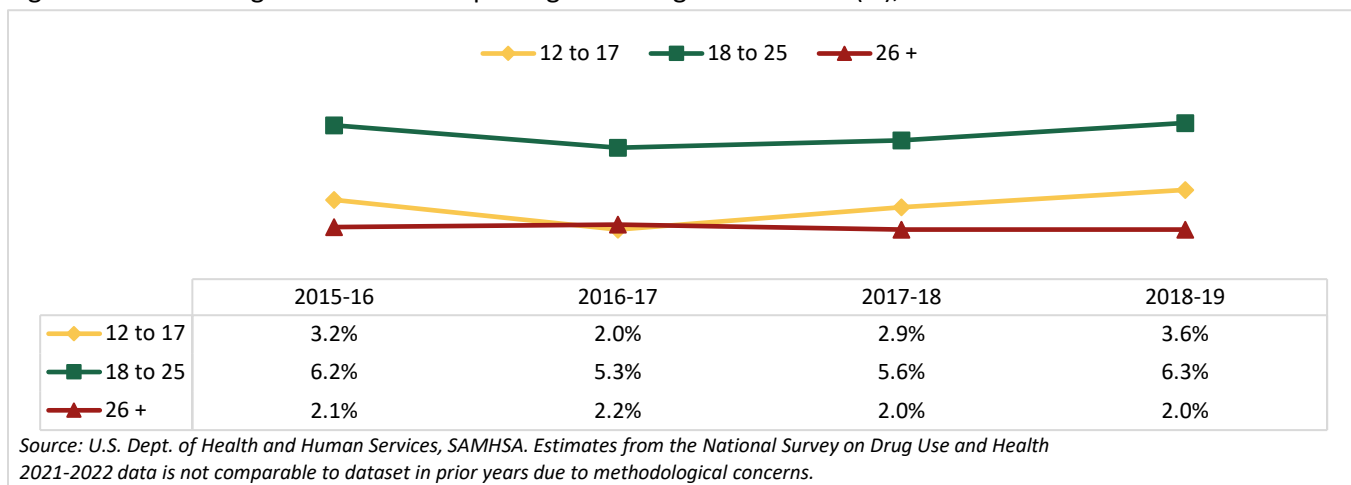
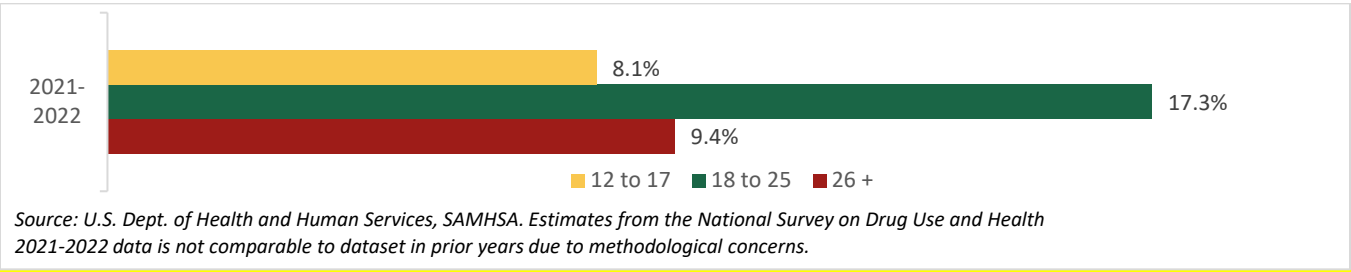


Figure 62: Persons Aged 12 or Older Reporting Drug Use Disorder (%), In Missouri By Age Group: 2021-2022.
NOTE: Change in graph scale, variable name, and variable parameters in 2021-2022.



Key Risk and Protective Factors (i.e. Intervening Variables)



Youth Risk and Protective Factors

During the Strategic Prevention Framework State Incentive Grant (SPF SIG) and continuing into the Partnerships for Success Grant (PFS), Missouri coalitions were encouraged to use the Hawkins and Catalano Model of Risk and Protective Factors in their strategic planning process. The model provides a variety of risk factors and protective factors that may contribute to youth's drinking behaviors and has been adapted to apply to other problem behaviors (e.g., drugs, violence, etc.). Coalition members used the model to decide what intervening variables might be at the root of the priority issues in their communities. Then they gathered data on the selected intervening variables and used data-based decision making to determine which variables would be addressed under the grant. To continue building upon what communities learned in these efforts, Missouri will continue to define Risk and Protective Factors according to the Hawkins and Catalano Model.

The only data source currently available in Missouri for these risk and protective factors is the Missouri Student Survey (MSS)³. This section borrows heavily from the 2024 Missouri Student Survey Report². Data are collected in the Spring of even number years.

Peer Engagement in the Problem Behavior

Most youth surveyed had no friends who used substances. Among those who reported having friends using substances indicated that their friends most commonly used alcohol, marijuana or vaping devices.

Table 2: % of Youth who have Friends that Use Substances, 2024.

| | 0 friends | 1 friend | 2 friends | 3 friends | 4 + friends |
|----------------------------|-----------|----------|-----------|-----------|-------------|
| Cigarettes | 87.4 | 5.7 | 2.9 | 1.4 | 2.6 |
| Vape/Vaping Device | 65.0 | 10.6 | 7.4 | 3.6 | 13.4 |
| Alcohol | 69.5 | 10.4 | 6.2 | 3.5 | 10.4 |
| Marijuana | 75.4 | 6.2 | 4.8 | 2.9 | 10.7 |
| Prescription Drugs | 91.7 | 4.1 | 1.9 | 0.8 | 1.4 |
| Other Illegal Drugs | 94.6 | 2.7 | 1.1 | 0.8 | 0.8 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Perception of Harm

Most youth believed that alcohol and drug use pose a moderate or great risk to them. The substances that youth report as being the greatest risk of harm are unnamed illegal drugs (72.7%), prescription drugs (64.2%), synthetic drugs (61.4%), and cigarettes (60.2%). The substance with the highest percentage of youth saying it is no risk at all to use is marijuana (12.2%).

³ Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report

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Table 3: Youths' Perception of Risk of Harm from Using Substances, 2024 (%).

| | No Risk at All | Slight Risk | Moderate Risk | Great Risk |
|--|----------------|-------------|---------------|------------|
| Cigarettes (1+ packs per day) | 6.4 | 11.4 | 22.0 | 60.2 |
| Alcohol: | | | | |
| Any alcohol use | 7.2 | 30.1 | 35.3 | 27.4 |
| One or two drinks nearly every day | 7.3 | 17.5 | 33.7 | 41.5 |
| Five or more drinks once or twice a week | 6.7 | 11.7 | 24.8 | 56.7 |
| Vape/Vaping Device | 7.9 | 19.9 | 30.9 | 41.3 |
| Marijuana (1-2 times per week) | 12.2 | 20.0 | 22.9 | 45.0 |
| Over the Counter Drugs | 7.0 | 15.4 | 28.0 | 49.6 |
| Prescription Drugs | 5.7 | 8.7 | 21.3 | 64.2 |
| Other Illegal Drugs | 5.5 | 6.1 | 15.7 | 72.7 |
| Synthetic Drugs | 7.0 | 11.1 | 20.5 | 61.4 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Law Enforcement

Most youth did not believe that the police would catch a child who used substances in their neighborhood. This is consistent among all the substances asked about (cigarettes, alcohol, or marijuana).

Table 4: % of Youth who Think The Police would Catch Kids Using Substances in Neighborhood, 2024.

| | No!* | No* | Yes* | Yes!* |
|-------------------|------|------|------|-------|
| Cigarettes | 25.5 | 42.1 | 24.6 | 7.7 |
| Alcohol | 24.9 | 42.9 | 23.5 | 8.7 |
| Marijuana | 24.2 | 35.3 | 27.5 | 13.0 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Availability

Most youth believed that it would be “very hard” to obtain unnamed illegal drugs (77.7%), prescription drugs (62.5%), synthetic drugs (62%), and marijuana (55.1%). The substances that are perceived to be “very easy” to find most often are over-the-counter drugs (24.4%), vaping devices (22.1%), and alcohol (19.1%).

Table 5: Youths' Perception of Substance Availability, 2024 (%).

| | Very Easy | Sort of Easy | Sort of Hard | Very Hard |
|-------------------------------|-----------|--------------|--------------|-----------|
| Cigarettes | 13.2 | 17.1 | 21.9 | 47.8 |
| Alcohol | 19.1 | 20.8 | 19.7 | 40.4 |
| Over-the-Counter Drugs | 24.4 | 19.2 | 14.6 | 41.8 |
| Vape/Vaping Device | 22.1 | 18.8 | 18.2 | 40.8 |
| Marijuana | 18.2 | 12.3 | 14.3 | 55.1 |
| Prescription Drugs | 6.8 | 10.1 | 20.6 | 62.5 |
| Synthetic Drugs | 9.1 | 11.9 | 17.0 | 62.0 |
| Other Illegal Drugs | 3.9 | 4.6 | 13.8 | 77.7 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Perception of ‘Wrongness’

Most youth thought that it was “very wrong” to use any substances. Only 4.9% of youth believed that it is not wrong at all for them to drink. When frequency of consuming alcohol increases, youth increasingly believe it to be “very wrong” for them to do. The substances selected as “not wrong at all” most frequently was alcohol and marijuana.

Table 6: Youths’ Perception of Wrongfulness of Substance Use, 2024 (%).

| | Not wrong at all | A little bit wrong | Wrong | Very wrong |
|---|---------------------|-----------------------|-------|---------------|
| Cigarettes | 2.3 | 5.5 | 18.3 | 73.8 |
| Alcohol: | | | | |
| Any type of alcohol | 4.9 | 13.9 | 21.2 | 60.0 |
| One or two drinks every day | 2.8 | 4.8 | 17.3 | 75.0 |
| Five or more drinks once or twice a week | 2.9 | 3.6 | 13.6 | 79.9 |
| Vapes/Vaping Devices | 3.6 | 9.8 | 18.2 | 68.4 |
| Marijuana: | | | | |
| Any use | 6.0 | 10.1 | 14.0 | 69.9 |
| Once or twice a week | 5.5 | 7.9 | 14.2 | 72.3 |
| Over the Counter Drugs | 2.5 | 4.6 | 13.2 | 79.7 |
| Prescription Drugs | 1.6 | 2.8 | 12.1 | 83.5 |
| Other Illegal Drugs | 1.0 | 2.1 | 9.5 | 87.4 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Rebellious attitudes

Most youth did not report rebellious attitudes.

Table 7: Extent of Rebellious Attitudes, 2024 (%).

| | Strongly disagree | Disagree | Agree | Strongly Agree |
|--|----------------------|----------|-------|-------------------|
| I ignore rules that get in my way. | 37.5 | 45.3 | 15.0 | 2.2 |
| I do the opposite of what people tell me, just to get them mad. | 48.5 | 37.1 | 12.3 | 2.1 |
| I think sometimes it is okay to cheat at school. | 38.5 | 33.9 | 23.0 | 4.6 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Parental attitudes

Most youth thought that their parents would think they were “very wrong” to use any of the substances asked about. However, only 71.1% of youth believed that their parents would find it “very wrong” if they consumed alcohol (any dosage). When a dosage was indicated (1-2 drinks nearly every day), youth reported similar “wrongfulness” for alcohol as compared to other drugs.

Table 8: Youths' Perception of Parental Perception of Wrongfulness of Substance Use, 2024 (%).

| | Not wrong at all | A little bit wrong | Wrong | Very wrong |
|--|---------------------|-----------------------|-------|---------------|
| Tobacco | 1.2 | 2.9 | 12.7 | 83.2 |
| Alcohol (dosage not indicated) | 3.0 | 9.6 | 16.3 | 71.1 |
| Alcohol (1-2 drinks nearly every day) | 1.3 | 2.7 | 11.3 | 84.7 |
| Marijuana (dosage not indicated) | 3.6 | 3.7 | 10.9 | 81.8 |
| Marijuana (1-2 times per week) | 2.9 | 2.9 | 9.9 | 84.4 |
| Over the Counter Drugs | 1.8 | 1.9 | 8.6 | 87.7 |
| Prescription Drugs | 1.1 | 1.2 | 9.7 | 88.1 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

School Bonding

A majority of students feel recognized (selected “agree” or “strongly agree”) by their teachers (74.6%) and believe that school rules are enforced fairly (66.7%). Additionally, 84% agree or strongly agree that students of all races and ethnic groups are treated equally. However, less than half (40.5%) of the students think their school informs their parents when they perform well.

Table 9: Perceptions and Attitudes toward School by Youth, 2024 (%).

| | Strongly disagree | Disagree | Agree | Strongly Agree |
|---|----------------------|----------|-------|-------------------|
| My teacher(s) notice(s) when I am doing a good job and let me know about it. | 4.7 | 20.7 | 60.9 | 13.7 |
| The school lets my parents know when I have done something well. | 16.7 | 42.9 | 33.9 | 6.6 |
| In my school, rules are enforced fairly. | 8.1 | 25.3 | 55.9 | 10.8 |
| In my school, students of all races and ethnic groups are treated equally. | 4.3 | 11.6 | 51.4 | 32.6 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Adult Attitudes and Perceptions of Drug Use

A community level survey was implemented in 2018 to capture data similar to the Missouri Student Survey with a more randomized sample of adults. Questions were generated by Missouri’s Prevention Resource Centers. The survey was completed using the online survey tool, Qualtrics, and advertised to the public through geographically targeted Facebook ads. A total of 3349 adults completed the survey. Parents made up 79.4% of sample size. To view the results of this survey, please refer to [State Epidemiology Profile, 2019](#).

Key Mental Health Indicators



STATE EPIDEMIOLOGY PROFILE- 2024

National Comparison

The percentage for having at least one major depressive episode was higher in Missouri than nationally. The percentage of Missouri adults aged 18 and more having at least one major depressive episode in the previous year in 2021-2022 was 9.3% whereas nationally it was 8.6%.

Figure 63: % of Adults Aged 18 or Older Having at Least One Major Depressive Episode in the Previous Year: U.S. and Missouri, 2004-2019.

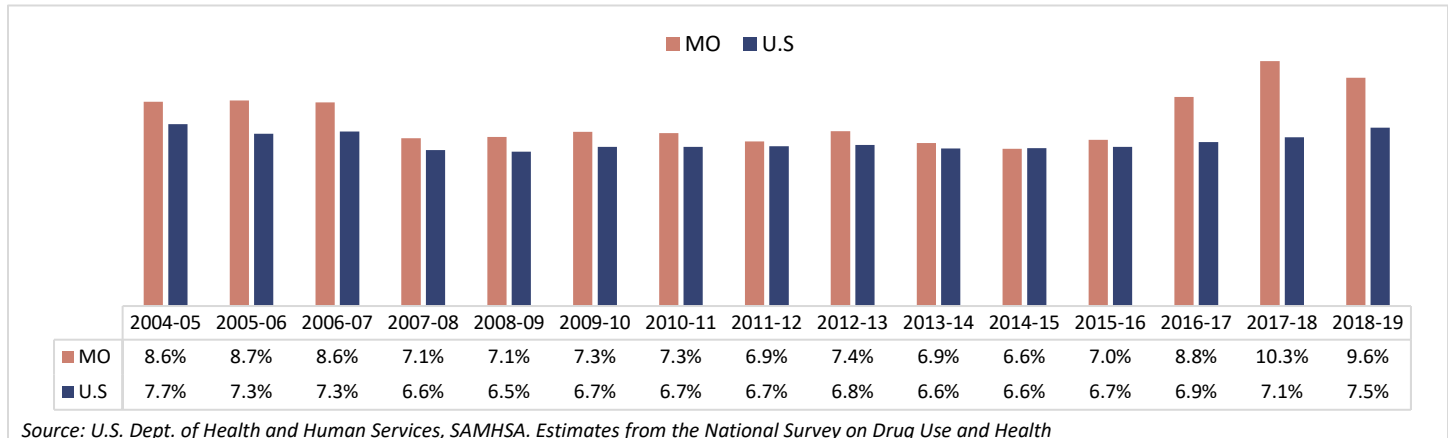


Figure 64: % of Adults Aged 18 or Older Having at Least One Major Depressive Episode in the Previous Year: U.S. and Missouri, 2021-2022.



Missouri Youth

According to the Missouri Student Survey³, over a quarter of the youth reported “often” or “always” being sad (27.4%), feeling grouchy (35.6%), sleeping more or less than usual (33.8%), or having difficulty concentrating at school (37.8%) in the past month. Further, 11.2% of the participants reported that they seriously considered suicide and 7.8% planned for suicide in the last year. Approximately, 5.5% of the youth actually attempted suicide.

Table 10: % Number of Suicide Attempts in the Past Year (12 months), 2024.

| | 0 times | 1 time | 2 or 3 times | 4 or 5 times | 6 or more times |
|---|---------|--------|--------------|--------------|-----------------|
| How many times did you attempt suicide? | 94.5 | 2.9 | 1.8 | 0.4 | 0.4 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

³ Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report

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Self-harm is defined as attempting to harm oneself on purpose in a deliberative, but not suicidal, way. While the majority of youth did not report any attempt of self-harm in their lifetime, 21.5% reported one or more incidents. The most common method of self-harm was “cut, scratched or hit myself on purpose”.

Table 11: Students Reporting Lifetime Types of Self-Harm, 2024 (%).

| | Yes |
|---|------|
| Cut, scratched or hit myself on purpose to hurt myself | 16.5 |
| Punched a hard object (like a wall or door) | 12.3 |
| Pulled my hair or eyelashes | 8.0 |
| Burned myself | 4.2 |
| Swallowed more medicine than a doctor told me to take to hurt myself | 3.0 |
| Used drugs or alcohol to hurt myself | 2.3 |
| Swallowed something on purpose that was not food, drink, or medicine in order to hurt myself | 0.9 |
| Other | 2.7 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Treatment Data

The Division of Behavioral Health: Psychiatric Services experienced a total of 75,269 admissions in 2022. At least 36,623 patients were admitted for depressive mood disorders.

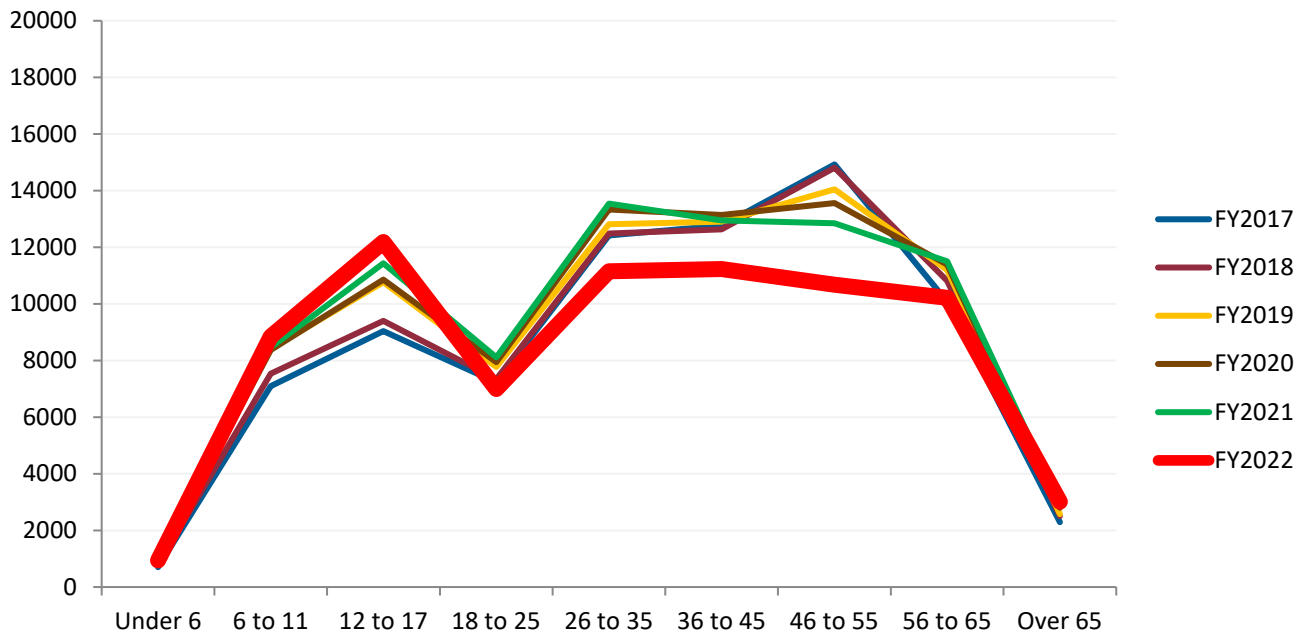
Table 12: Diagnoses of Clients Served by Comprehensive Psychiatric Services, 2017-22.

| Diagnosis Category | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|------------------------------------|---------|---------|---------|---------|---------|---------|
| Attention Deficit Disorders | 13,123 | 19,596 | 13,857 | 13,572 | 13,596 | 13,276 |
| Bipolar Mood Disorders | 20,382 | 19,596 | 19,197 | 18,328 | 17,781 | 14,814 |
| Depressive Mood Disorders | 36,235 | 37,850 | 40,107 | 40,541 | 41,565 | 36,623 |
| Sexual Disorders | 460 | 496 | 554 | 594 | 620 | 560 |
| Disorder Other or Unknown | 3,845 | 3,316 | 3,196 | 2,524 | 2,238 | 2,007 |
| All Disorders | 76,552 | 78,300 | 81,330 | 82,234 | 82,694 | 75,269 |

Source: Division of Comprehensive Psychiatric Services -- Clinical Data. Missouri Behavioral Health Epidemiology Workgroup Website.

When separated by age and year, there was an increase in 2022 in admissions for 12-17 year-olds, but for nearly all of the other age groups, there has been a lower amount of admissions than previous years.

Figure 65: Number of Clients Served by Comprehensive Psychiatric Services, by Age Group, FY2017-FY2022.



Source: Division of Comprehensive Psychiatric Services -- Clinical Data. Missouri Behavioral Health Epidemiology Workgroup Website

Mortality Rates due to Suicide

Missouri has been higher than the national average for rate of deaths due to suicide. Men and white people are much more likely to die due to suicide.

Figure 66: Rate of Death due to Suicide per 100,000 Pop: U.S. and Missouri, 2018-2022.

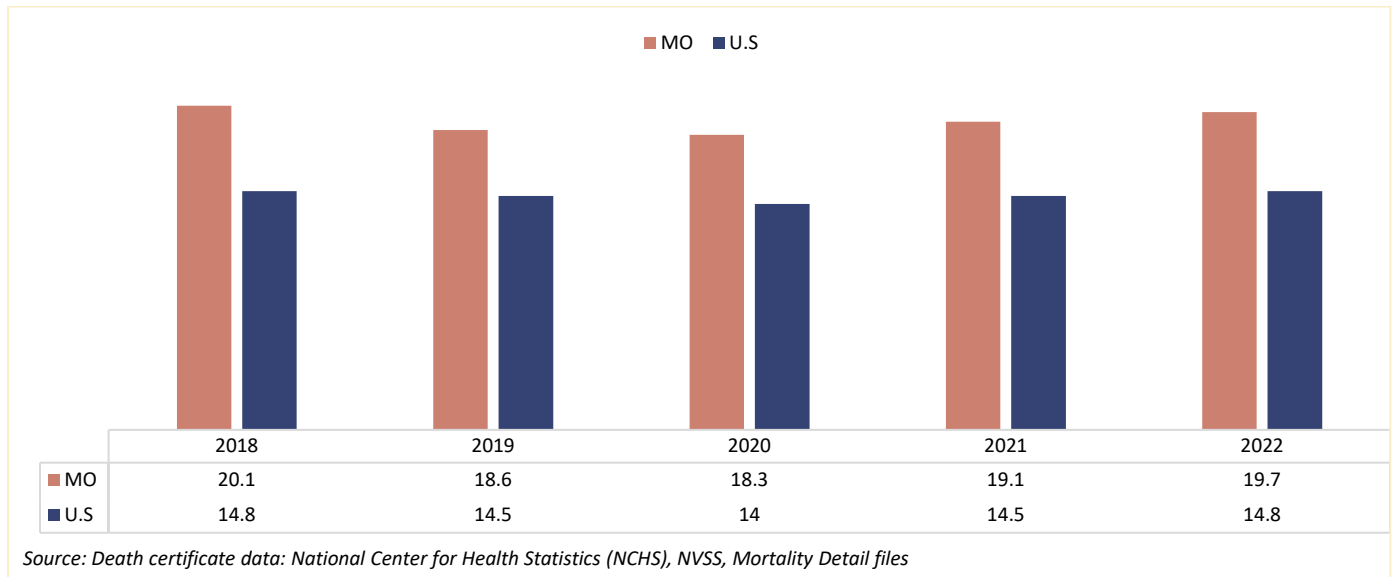
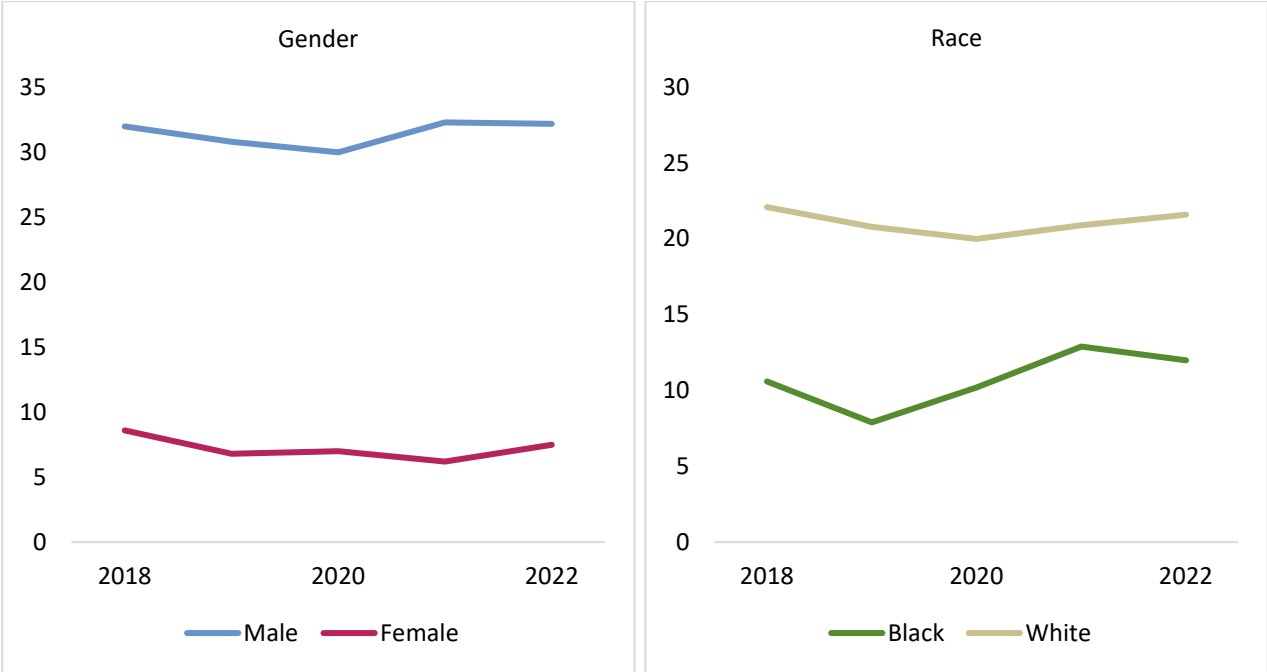


Figure 67: Rate of Deaths due to Suicide by Demographics per 100,000 Pop: MO only, 2018-2022.



Source: National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database

High Risk Subpopulations



LGBQ+

Questions about sexual orientation and gender identity are part of an optional module of the MSS. Schools register prior to the survey administration and schools may opt out of participating in the optional modules. Therefore, the data is not necessarily representative of Missouri.

The following data compares behavioral patterns between sexual orientations. Because gender identity does not count as a sexual orientation, analysis by transgender status would normally be done separately. However, because there was a low sample size of people identifying as transgender, only analysis on sexual orientation will be included.

Substance Use Indicators

LGBQ+ students consistently reported higher use for substances than their heterosexual peers.

Figure 68: Past 30-Day Substance Use, by Sexual Orientation, 2024.

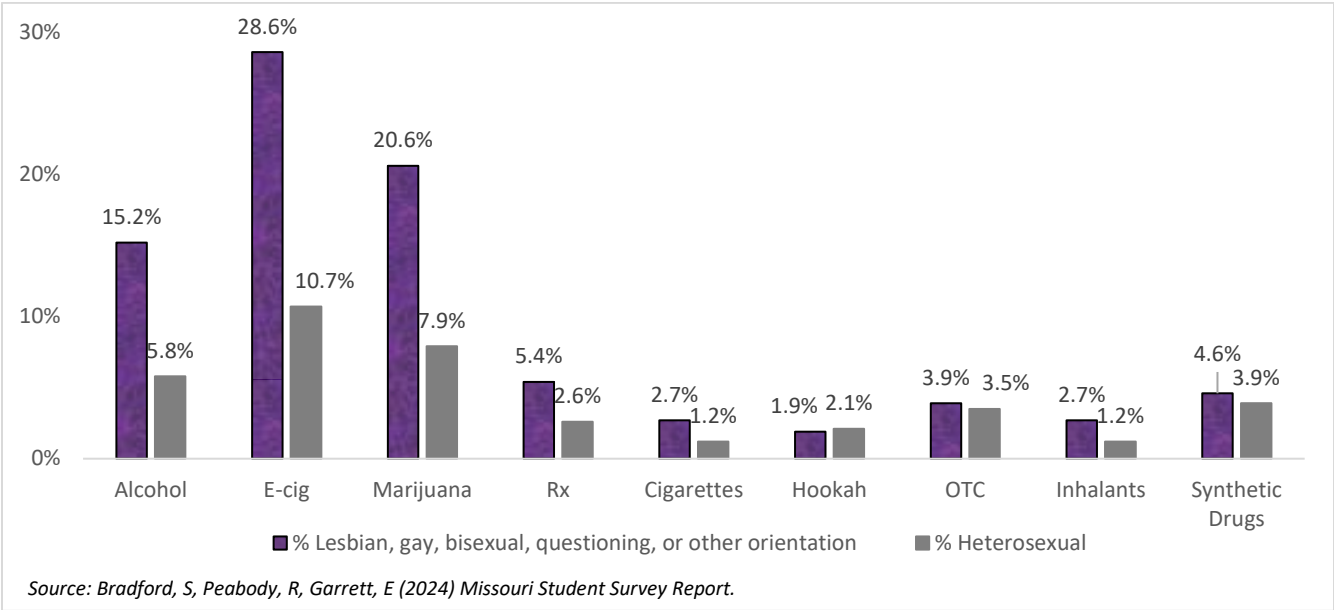


Table 13: Past 30-Day Substance Use, by Sexual Orientation, 2024.

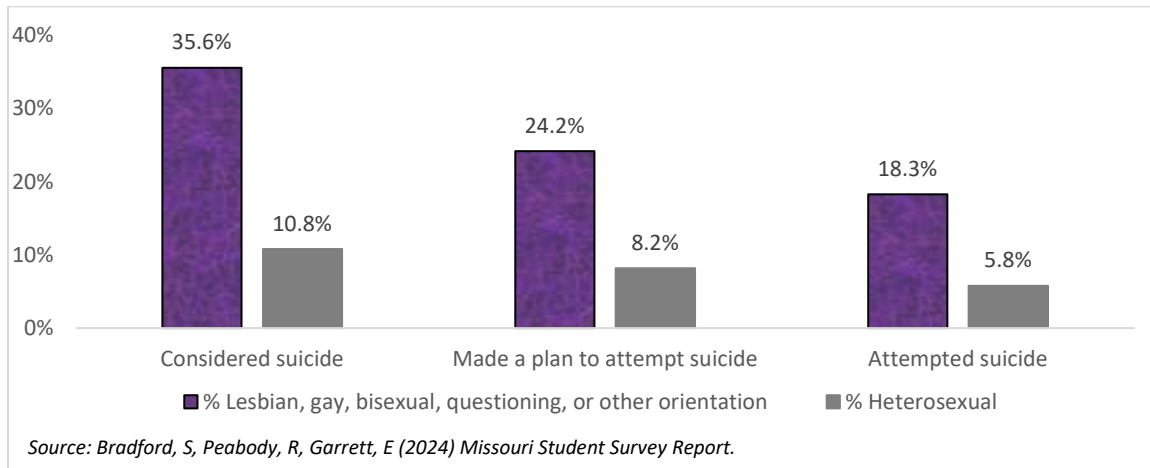
| Substances | Heterosexual (%) | LGBQ+(%) |
|------------------------|------------------|----------|
| Alcohol | 5.8% | 15.2% |
| Cigarettes | 1.2% | 2.7% |
| E-cigarettes | 10.7 | 28.6 |
| Hookah | 2.1 | 1.9 |
| Marijuana | 7.9 | 20.6 |
| Over-the-Counter drugs | 3.5 | 3.9 |
| Prescription drugs | 2.6 | 5.4 |
| Inhalants | 1.2 | 2.7 |
| Synthetic drugs | 3.9 | 4.6 |

Source: Bradford, S, Peabody, R, Garrett, E (2024) Missouri Student Survey Report.

Mental Health Indicators

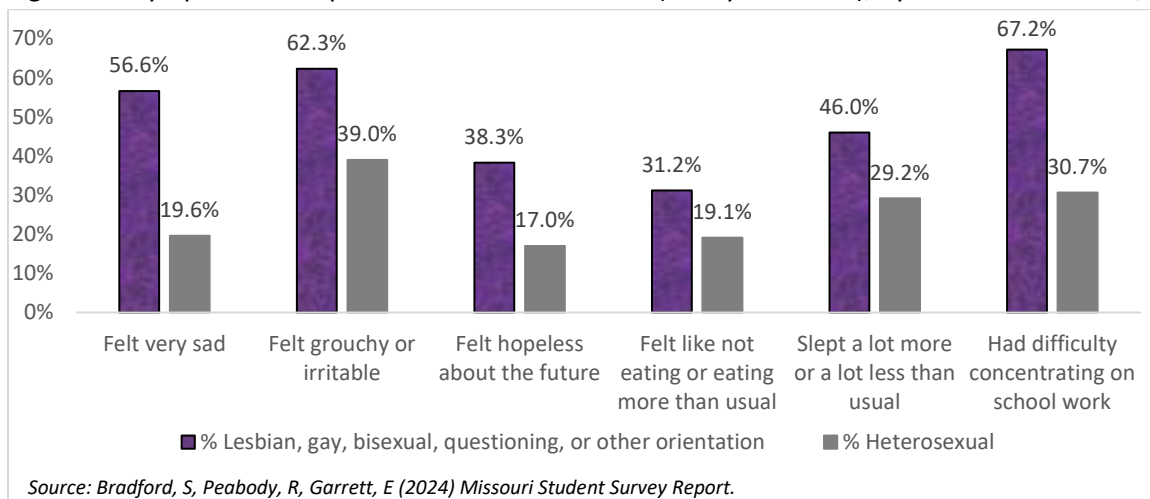
Students who identified as LGBTQ+ are much more likely than students identifying as heterosexual to report having suicidal thoughts and attempting suicide. The percentage of LGBTQ+ suicide attempts (18.3%) was over three times the rate in heterosexual students (5.8%).

Figure 69: Suicidality (1+ times), by Sexual Orientation, 2024.



Similarly, many more LGBTQ+ students reported experiencing symptoms of depression than heterosexual students. Specifically, 56.6% of LGBTQ+ students feel very sad, 62.3% feel grouchy or irritable, and 38.3% feel hopeless about the future, compared to 19.6%, 39.0%, and 17.0% of heterosexual students, respectively. Additionally, 31.2% of LGBTQ+ students experience changes in eating habits, 46.0% have altered sleep patterns, and 67.2% struggle with concentrating on school work, whereas these issues are reported by 19.1%, 29.2%, and 30.7% of heterosexual students, respectively.

Figure 70: Symptoms of Depression in the Past Month (Always or Often), by Sexual Orientation, 2024.



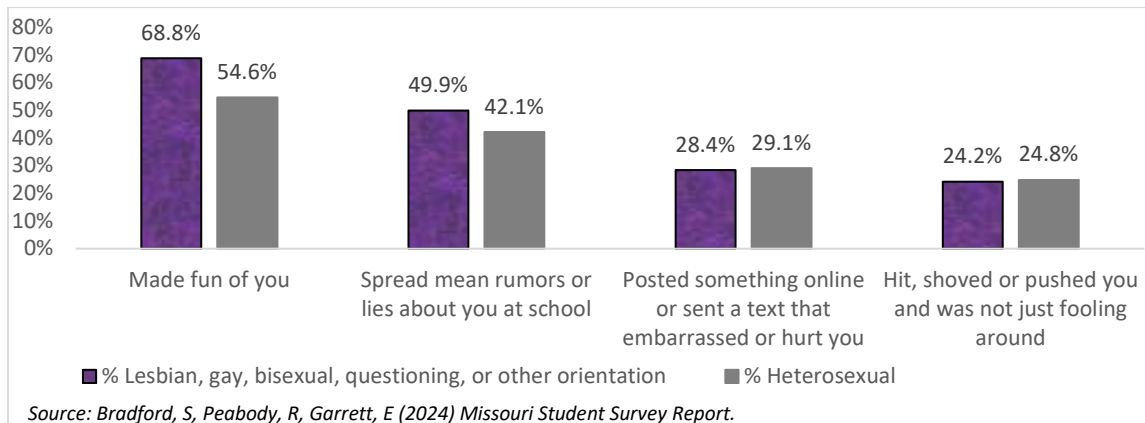
Bullying and Violence

The results indicate that 68.8% of students identifying as lesbian, gay, bisexual, questioning, or other orientation reported being made fun of, compared to 54.6% of heterosexual students. Additionally, 49.9% of LGBTQ+ students experienced mean rumors or lies spread about them at school, whereas this was reported by 42.1% of heterosexual students.

In terms of online harassment, 28.4% of LGBTQ+ students had something posted online or received a text that embarrassed or hurt them, slightly lower than the 29.1% reported by heterosexual students. When it comes to physical bullying, 24.2% of LGBTQ+ students reported being hit, shoved, or pushed and not just fooling around, a rate comparable to the 24.8% reported by heterosexual students.

Overall, the data shows that LGBTQ+ students report higher instances of being made fun of and having mean rumors spread about them, while the rates of online harassment and physical bullying are similar between LGBTQ+ and heterosexual students.

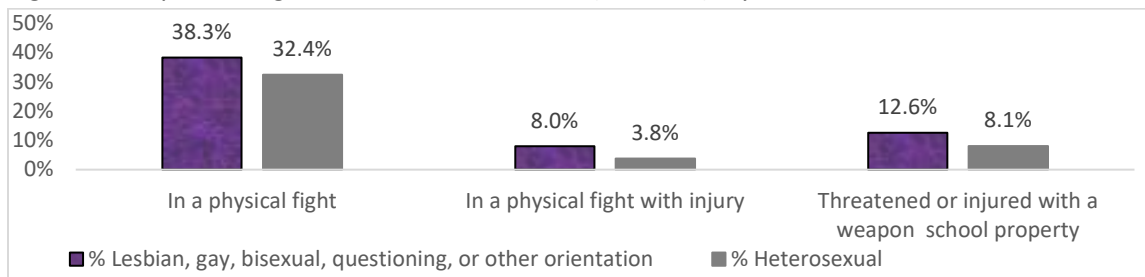
Figure 71: Bullying in the Past 3 Months (1+ times), by Sexual Orientation 2024.



Over a third (38.3%) of students identifying as lesbian, gay, bisexual, questioning, or other orientation were involved in a physical fight, compared to 32.4% of heterosexual students. Furthermore, 8.0% of LGBTQ+ students were involved in a physical fight that resulted in injuries requiring treatment by a doctor or nurse, while this was reported by 3.8% of heterosexual students.

Additionally, 12.6% of LGBTQ+ students were threatened or injured with a weapon such as a gun, knife, or club on school property, compared to 8.1% of heterosexual students.

Figure 72: Experiencing Violence in the Last Year (1+ times), by Sexual Orientation, 2024.



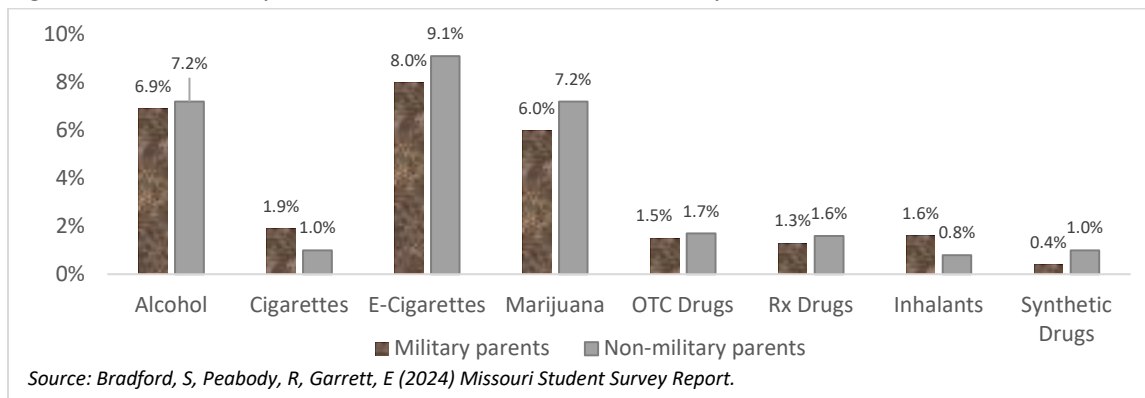
Military Personnel

Data about Missouri military personnel compared to their national and civilian counterparts can be found in the 2022 state epidemiological profile. Because data on personnel themselves has not been posted by NSDUH since 2019, responses from the 2024 Missouri Student Survey were used to determine if there were differences between how youth who had a parent in the military responded compared to those who had no parents in the military.

Substance Use

Past month substance use percentages among youth with military parents were similar to percentages among youth without military parents. Notably, however, 1.6% of youth with parents who are in the military used inhalants in the past month, compared to 0.8% of youth without military parents.

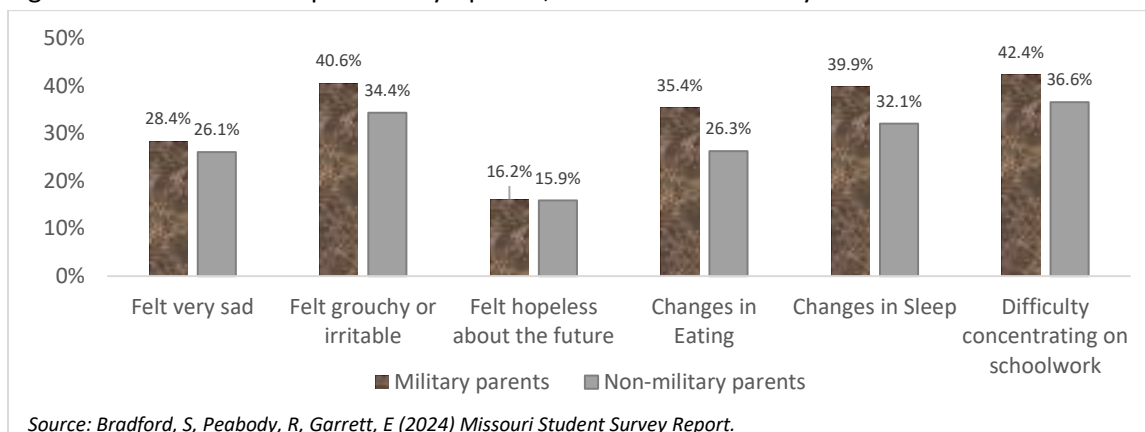
Figure 73: Past 30-Day Substance Use, % Youth with Military Parents vs Without.



Mental Health Indicators

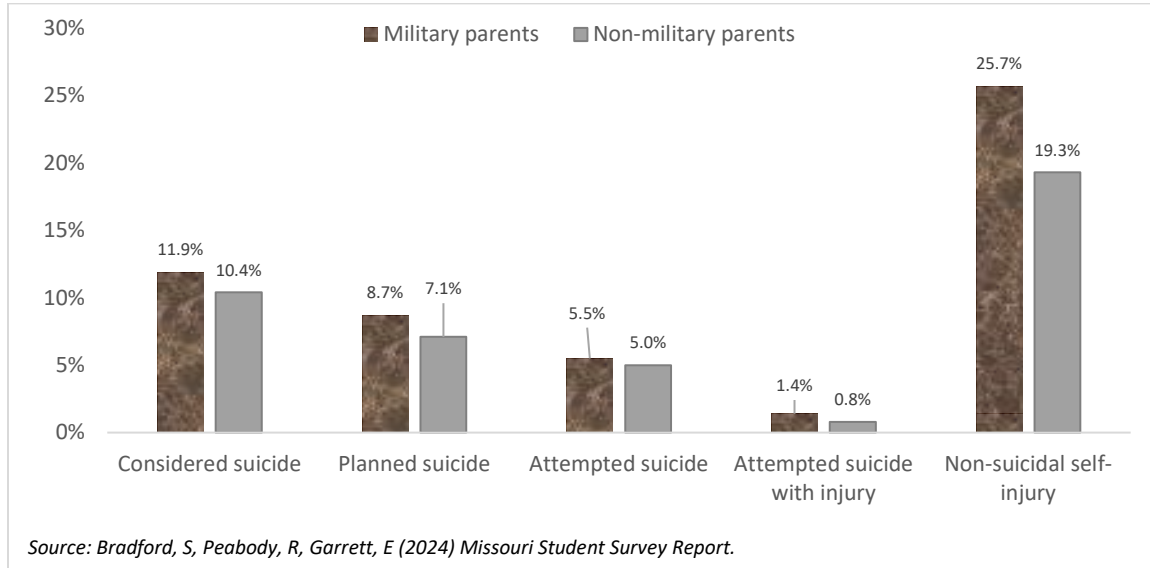
While similar to youth without military parents, youth with military parents showed higher percentages for most of the depression indicators than those without military parents. The biggest difference between the two groups were changes in eating behaviors, such as eating more or less than usual (35.4% vs 26.3%, military vs non-military parents), and changes in sleeping behavior, such as sleeping more or less than usual (39.9% vs 32.1%).

Figure 74: Past Month Depression Symptoms, % Youth with Military Parents vs Without.



Rates of youth considering, planning, or attempting suicide are similar among youth with military parents and youth without military parents. Youth with military parents indicated high rates of non-suicidal self-injury (25.7%) compared to those without military parents (19.3%).

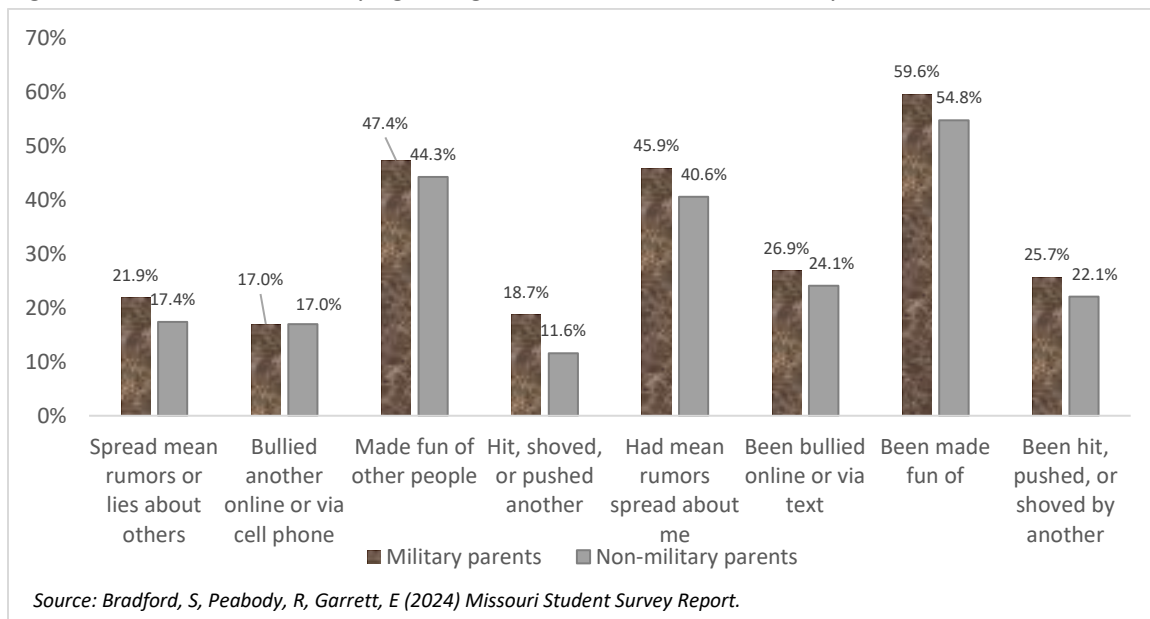
Figure 76: Past Year Indicators, % Youth with Military Parents vs Without.



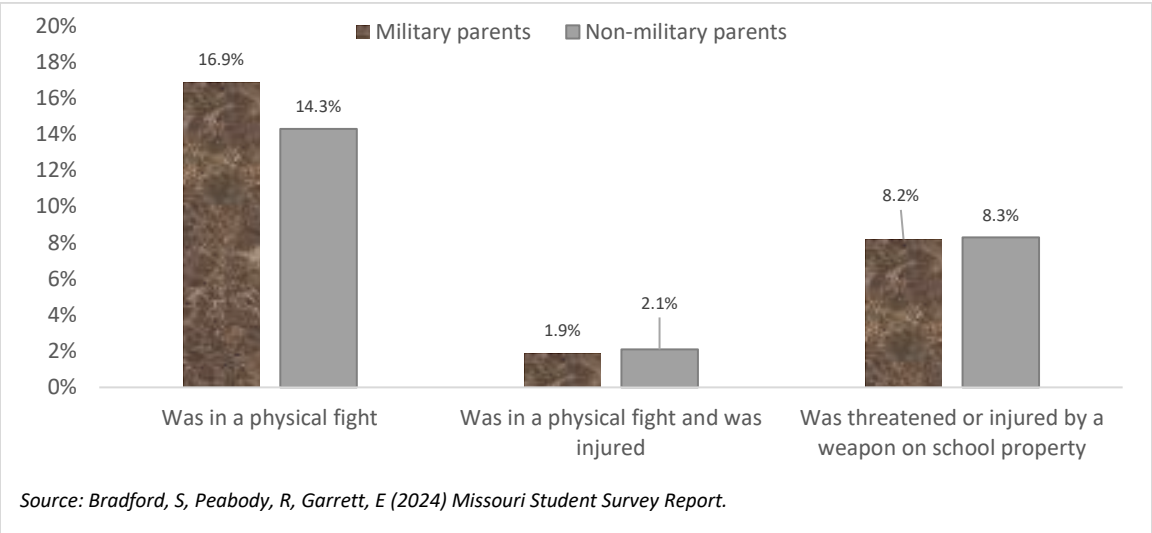
Bullying and Violence

Indicators of bullying were also measured and compared between the groups. While the percentages are similar, the variable with the highest difference between groups was physical bullying. Youth with military parents hit, shoved, or pushed another student at a higher rate than youth without military parents (18.7% vs 11.6%).

Figure 75: Past 3 Months Bullying/Being bullied, % Youth with Military Parents vs Without.



Rates of violence were similar between youth with military parents and youth without military parents.



DATA LIMITATIONS AND GAPS

This report attempts to provide an overview of the state of Missouri's behavioral health data. However, due to limitations in the data available and resources to write the report, there are gaps that remain.

For example, the risk and protective factors and in-depth mental health data lack high quality and national comparable data sources. Therefore, local data are used to explore these variables in order to have some indication of their current status in Missouri. Some inferences can be made with local data, but should be interpreted cautiously.

Additionally, methodological issues may cause some variability with the data that is not a true reflection of population. COVID-19 and the shift in methods of data collection have caused some data to not be comparable to previous years (i.e. National Survey on Drug Use and Health). Therefore, the lack of comparable numbers from other states and national level data makes it difficult to determine the relative magnitude of the issues in Missouri.

Another concern that needs to be taken into consideration is the use of risk and protective factors as defined by the Hawkins and Catalano Model, which only allows for middle and high school students to be examined with a single data source. This does provide a starting point; however, further efforts will have to be made to determine which risk and protective factors play a role in influencing the behavioral health of people across the lifespan.

Data quality of Missouri Student Survey was improved in 2016 with the introduction of a random sample at the state level; however, response rates are slightly less than desired.

Data on consequences are available at the state level from the national data set and are included in this report. However, stakeholders would like data on the cost to the state for each variable, but that data is currently unobtainable.

Data shows that individuals 18-21 and 21-25 years of age are the heaviest users for alcohol, tobacco, and other drugs so subpopulation data for these age groups would be most helpful. However, those ages 18-21 are not legally allowed to drink which raises concerns for this group's ability to access these substances. While there are some data available on usage rates from the national surveys, there is no information on risk and protective factors, where the young people are accessing the substances, or other information which could be used to target interventions for this high risk group. Additionally, subpopulation data would also be helpful for the high-risk subpopulations the MO-BHEW identified in 2013: 1) military personnel, 2) homeless, 3) persons with a disability, and 4) LGBTQ individuals. The MO-BHEW was able to obtain some Missouri data for LGBTQ youth and is exploring data sources for disabled persons and homeless individuals.

Current data on military personnel is lacking, but project staff examined responses from the children of military personnel to supplement the gaps. Current data for LGBTQ individuals is limited to a small sample of youth from the Missouri Student Survey. Data sources pertaining to substance use and mental health in this population will continue to be explored. Data on substance use in pregnant women would also be helpful but there is no current data source for this information.

CONCLUSIONS

Alcohol and tobacco products continue to be commonly used substances used in Missouri. Past month usage rates for alcohol and cigarettes, however, has declined over time. Rates of past-month alcohol use are similar in Missouri and the United States. Binge drinking continues to be most common in the 18-25 year-old range, followed by those in the 26+ age category. Alcohol-impaired traffic crashes spiked in 2020, but they have decreased since then. Cirrhosis rates have risen in Missouri over time, affecting white people and women especially.

Missouri consistently has had a higher percentage of people who use tobacco than the U.S. percentage. Cigarette use and chew use has become less popular, and vape usage, while it spiked in 2020, has been declining ever since then. The consequences of tobacco use were studied- lung cancer, COPD and emphysema, and Cardiovascular and Ischemic Cerebrovascular Disease. The rates have been higher among Missourians and white population.

About 3.8% of Missourians used pain relievers for nonmedical use in 2021-2022. This was higher than the national rate of 3.1%. Among Missourians, the use has been highest among those aged 18 to 25 years while those aged over 26 have rates similar to 12-17 year-olds. The mortality due to prescription drug use and drug overdose/poisoning has been rising in Missouri and nationally, disproportionately affecting the black population and men most. The use of marijuana has continued to grow, reaching 16.1% of Missourians who have used cannabis in the past month, surpassing the national average. Those 18-25 tend to have the highest use rates across all drugs.

Over-the-counter medications, alcohol, cigarettes, and marijuana were the most available substances, according to youth. The substance most viewed as “not risky at all” is marijuana.

When examining the mental health variables that have nationally comparable numbers, depression and suicide are larger problems in the state than is average for the nation. White males are the most vulnerable to suicide.

Finally, the MO-BHEW identified two high-risk subpopulations with data on mental health and substance use: LGBTQ+ individuals and military personnel. LGBTQ+ students are more likely than the heterosexual peers to use substance, experience bullying and violence, and to attempt suicide. The children of military parents in the state indicate higher instances of bullying and being bullied, higher percentages of depression indicators, and higher percentages of non-suicidal self-injury.

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Appendix A - Data Sources, Indicators and Selection Criteria

Data Sources

Table 14: Data Sources

| Name of Survey | Frequency of Reporting | Mode of Data Collection | Group Surveyed | Level Data Reported |
|--|--------------------------|---|---|--|
| Behavioral Risk Factor Surveillance System (BRFSS) | Annual | Telephone interview | Ages 18 or older, includes veterans | National, state, and Missouri Department of Health and Senior Services planning regions |
| National Survey on Drug Use and Health (NSDUH) | Annual | Face-to-face interview | Ages 12 or older, includes veterans | National but can also obtain state and sub-state planning regions by combining multiple survey years |
| Missouri Student Survey (MSS) | Every even numbered year | Web-based at school | Grades 6th - 12th but emphasis on 9th grade | State and county |
| Youth Risk Behavior Survey (YRBS) | Every odd-numbered year | Paper questionnaire at school | 9th through 12th | National and State |
| National Vital Statistics System Mortality (NVSS-M) | Annual | Death certificate data | Population level | National and State – see Appendix A for more information |
| U.S. National Institutes of Health, NIAAA. | Annual | Multiplying national, State, or regional beverage volume by the corresponding ABV and dividing by the national, State, or regional population ages 14 and older | Ages 14 and older | Per capita ethanol consumption for States, census regions, and the United States |
| Comprehensive Psychiatric Services Data | Annual | | | State and county |

Data Selection

For years, DBH (formerly ADA) has produced an annual Status Report with data on alcohol and drug use across the state. This report includes data from national surveys as well as some local data where available. This historical data collection, in combination with the indicators listed in the guidance document, led to the choice of indicators covered. NSDUH was chosen as the primary data source (where available) over BRFSS due to its historical use in Missouri.

Similarly, Missouri State Highway Patrol (MSHP) data were used instead of NHTSA. Traditionally, these were used as MSHP only reports those known to have alcohol involvement while NHTSA attempts to estimate the percentage that were alcohol related from the pool of unknown.

Mortality Data

Note that the following ICD-10 codes were used to define the mortality categories. Data can be queried at <http://wonder.cdc.gov/ucd-icd10.html>.

| | |
|---|---|
| Cardiovascular and Ischemic Cerebrovascular Disease | I20–I25 and I60-69, I00-I09, I11, I13, I26-I51(exclude I32, I39, I41) |
| Chronic Liver Disease & Cirrhosis | K70, K73-K74 |
| COPD And Emphysema | J43-J44 |
| Drug Related Behavior | F11- F16, F18-F19, F55 and G62 |
| Drug Related Poisoning | X40-X44, X46, X60-X64, X66, Y10-Y14 and Y16 |
| Homicide | X85-Y09 and Y87.1 |
| Lung Cancer | C34 |
| Suicide | X60-X84 and Y87.0 |
| Prescription Drugs | T36-T39, T40.2-T40.4, T41-T43.5, and T43.8-T50.8 [prescription OPR (T40.2-T40.4), benzodiazepines (T42.4)] |